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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Rawlins *et al.*

Appl. No. 09/986,764

Filed: November 9, 2001

For: **Method and Apparatus for
Reducing DC Offsets In A
Communication System**

Confirmation No. 5623

Art Unit: 2631

Examiner: Vo, Don Nguyen

Atty. Docket: 1744.1330000

Letter to PTO Draftsman: Submission of Formal DrawingsCommissioner for Patents
Washington, D.C. 20231

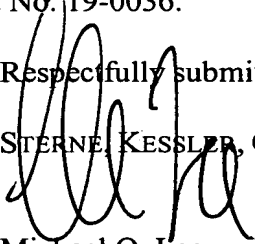
Sir:

Submitted herewith are eighty one sheets of formal drawings with Figures: 1A-1D, 2, 3A-3G, 4, 5, 6A, 6B, 7A, 7B, 8-12, 13A-13I, 14-23, 24A, 24B, 25A, 25B, 26-30, 31A, 31B, 32A, 32A-1, 32A-2, 32A-3, 32A-4, 32B, 32B-1, 32B-2, 32B-3, 33-52, corresponding to the informal drawings submitted with the above-captioned application. Identification of the drawings is provided in accordance with 37 C.F.R. § 1.84(c). Acknowledgment of the receipt, approval, and entry of these formal drawings into this application is respectfully requested.

It is not believed that an extension of time is required, other than any already provided herewith. However, if an extension of time is needed to prevent abandonment of the application, then such extension of time is hereby petitioned. The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

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SKGF_DC1:110919.1

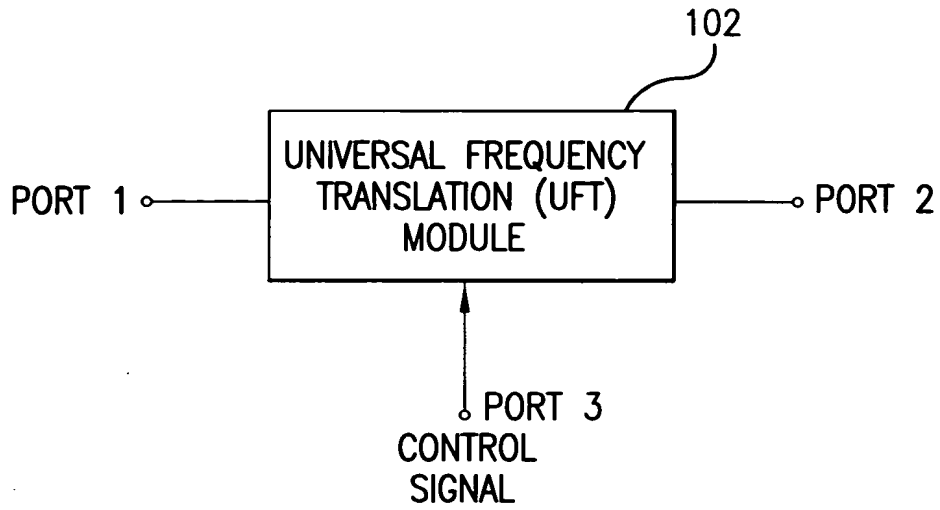


FIG. 1A

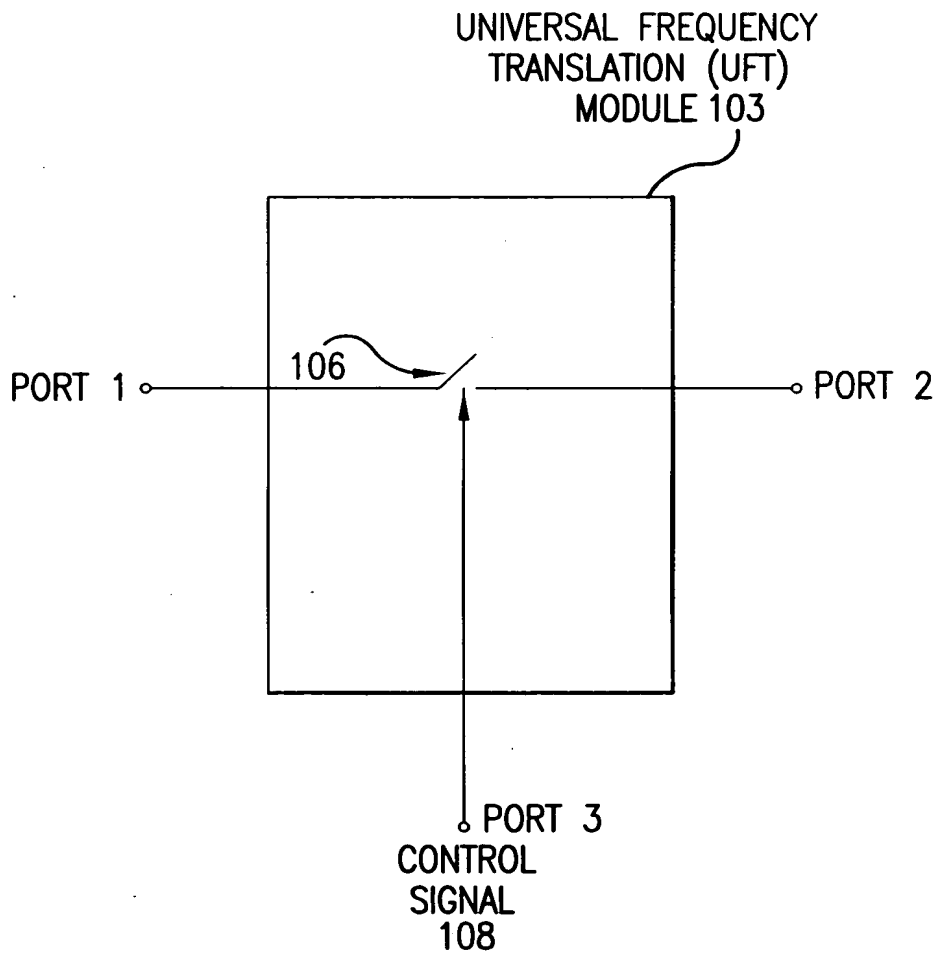


FIG. 1B

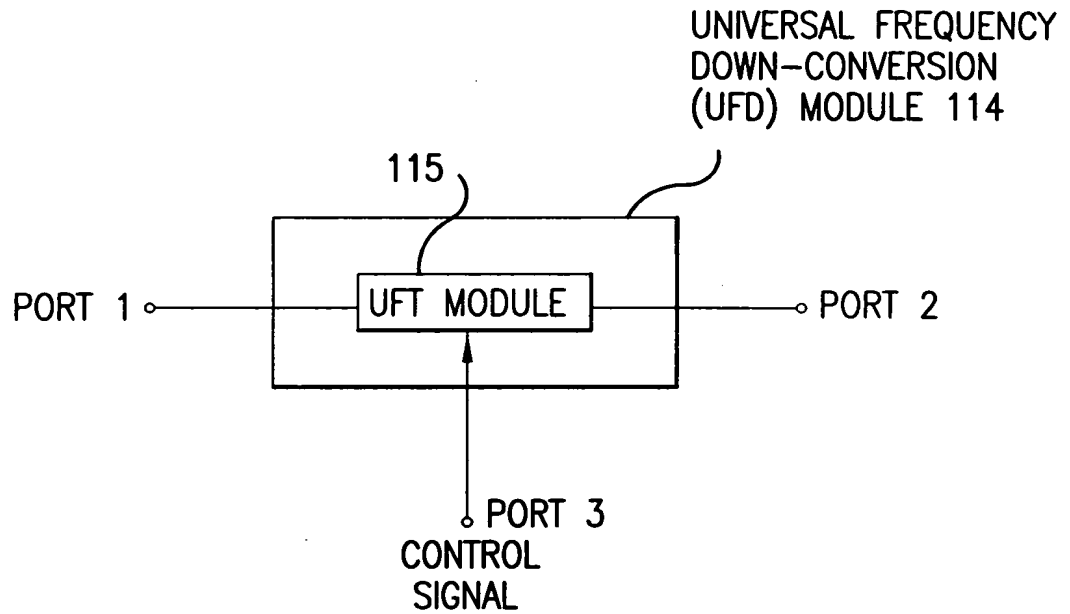


FIG. 1C

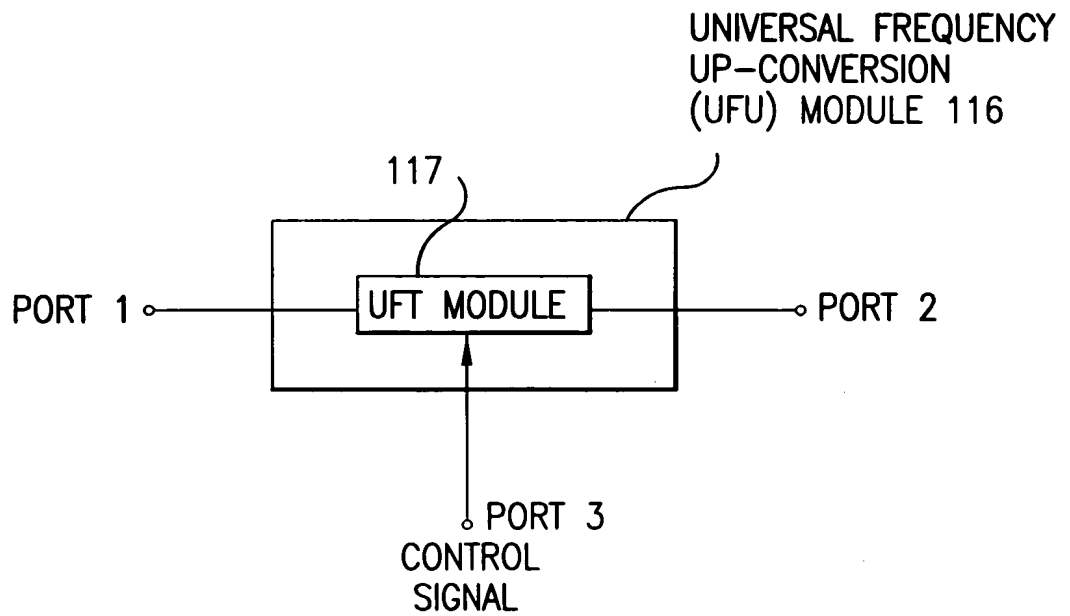


FIG. 1D

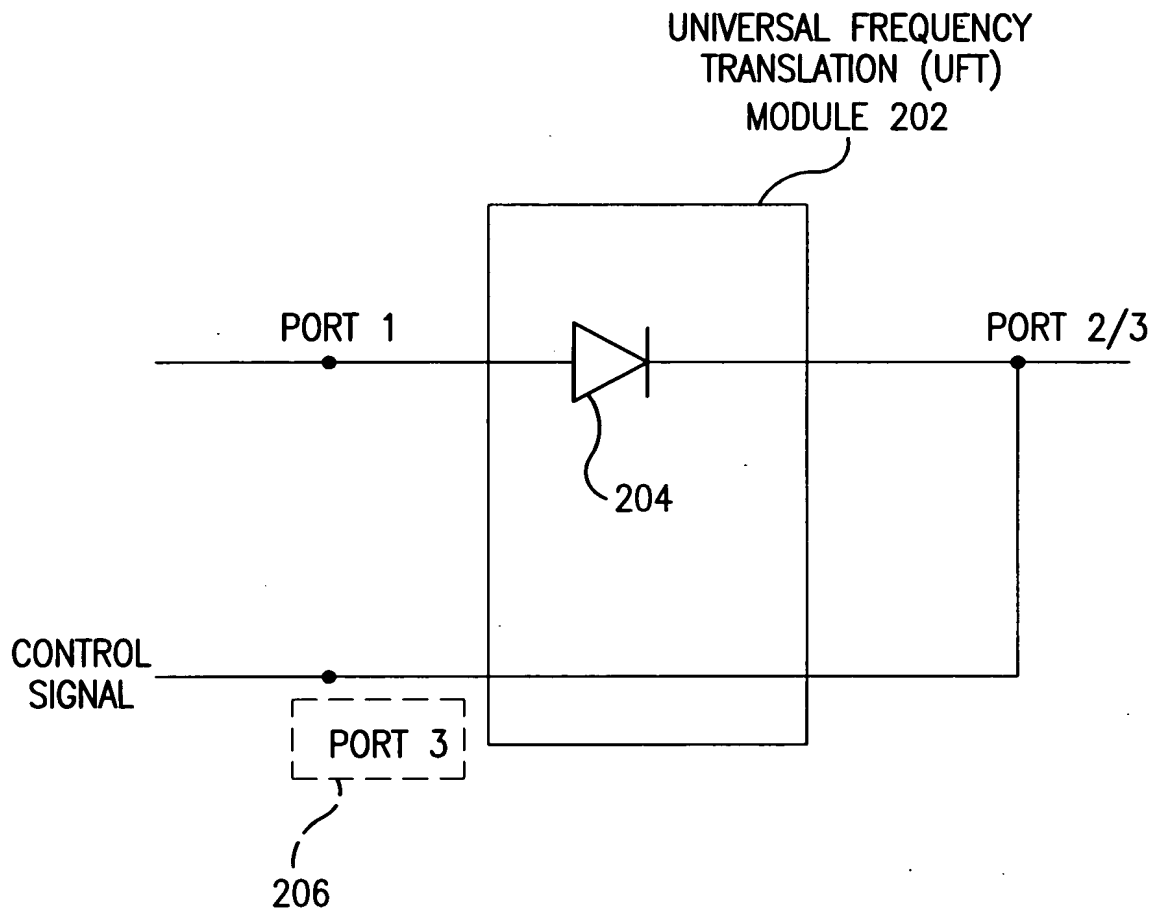


FIG. 2

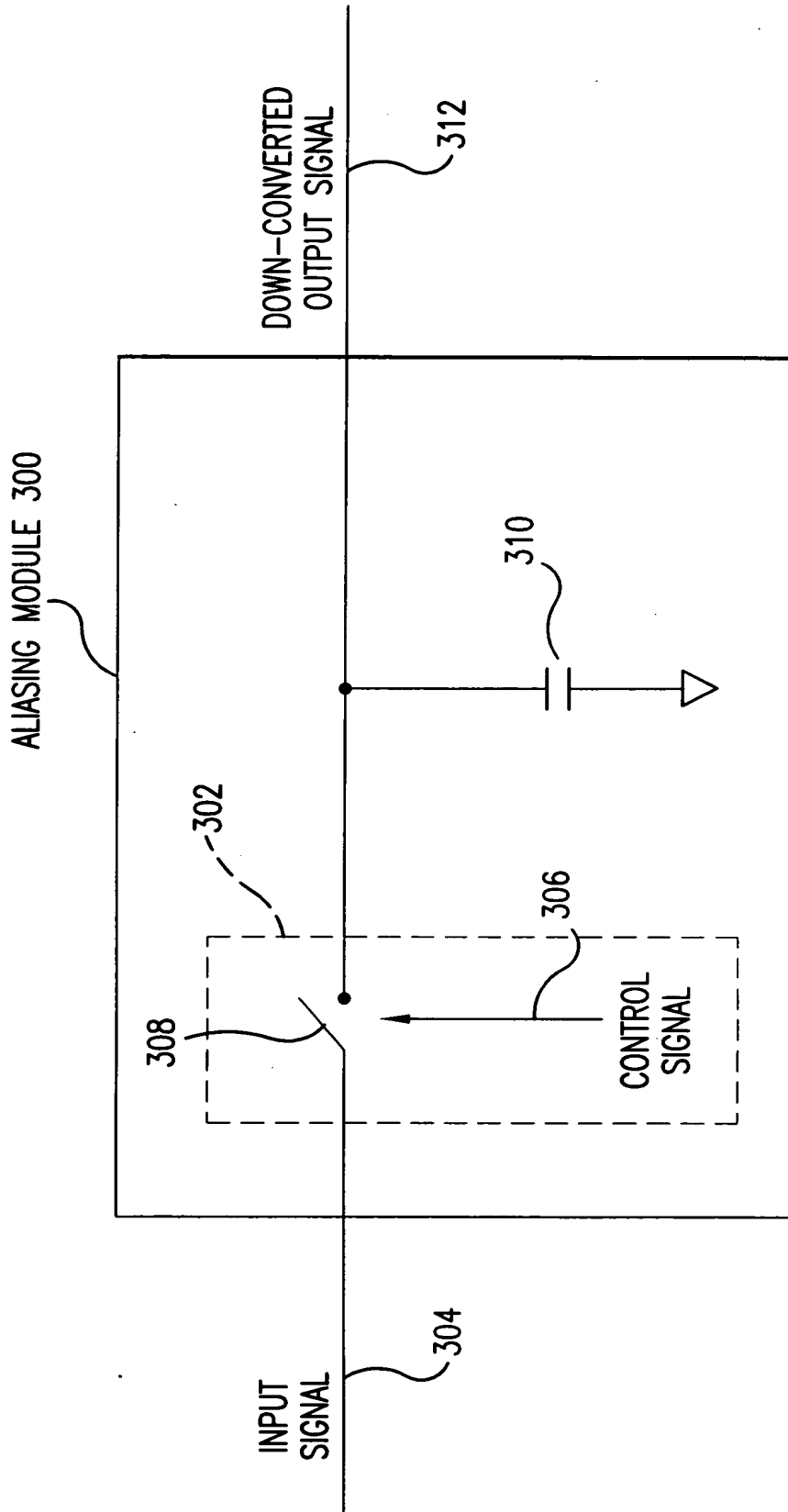


FIG. 3A

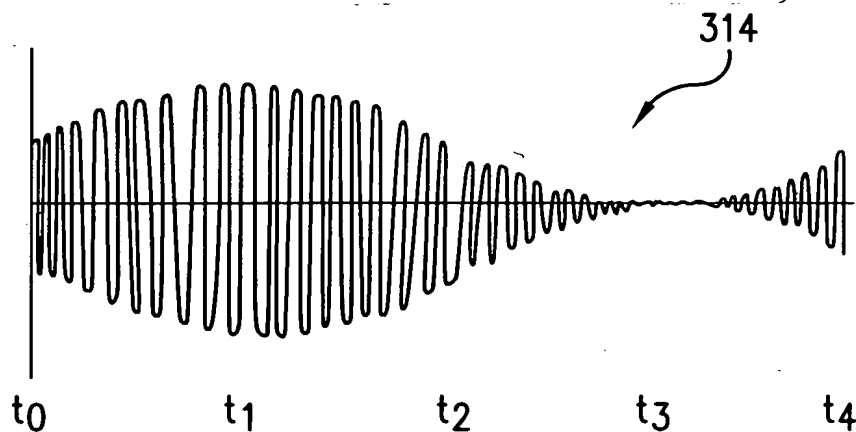


FIG. 3B

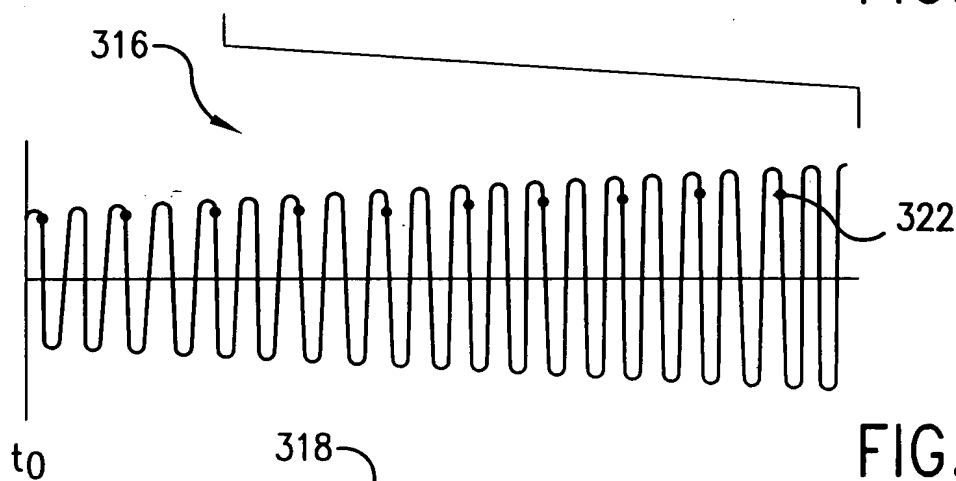


FIG. 3C

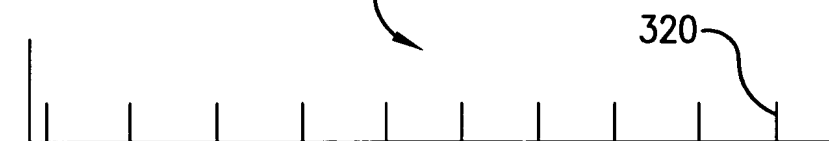


FIG. 3D

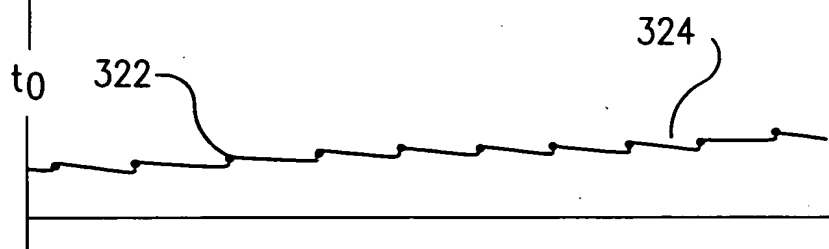


FIG. 3E

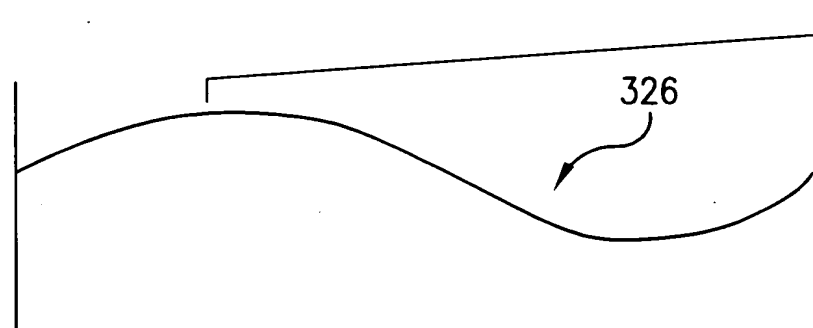


FIG. 3F

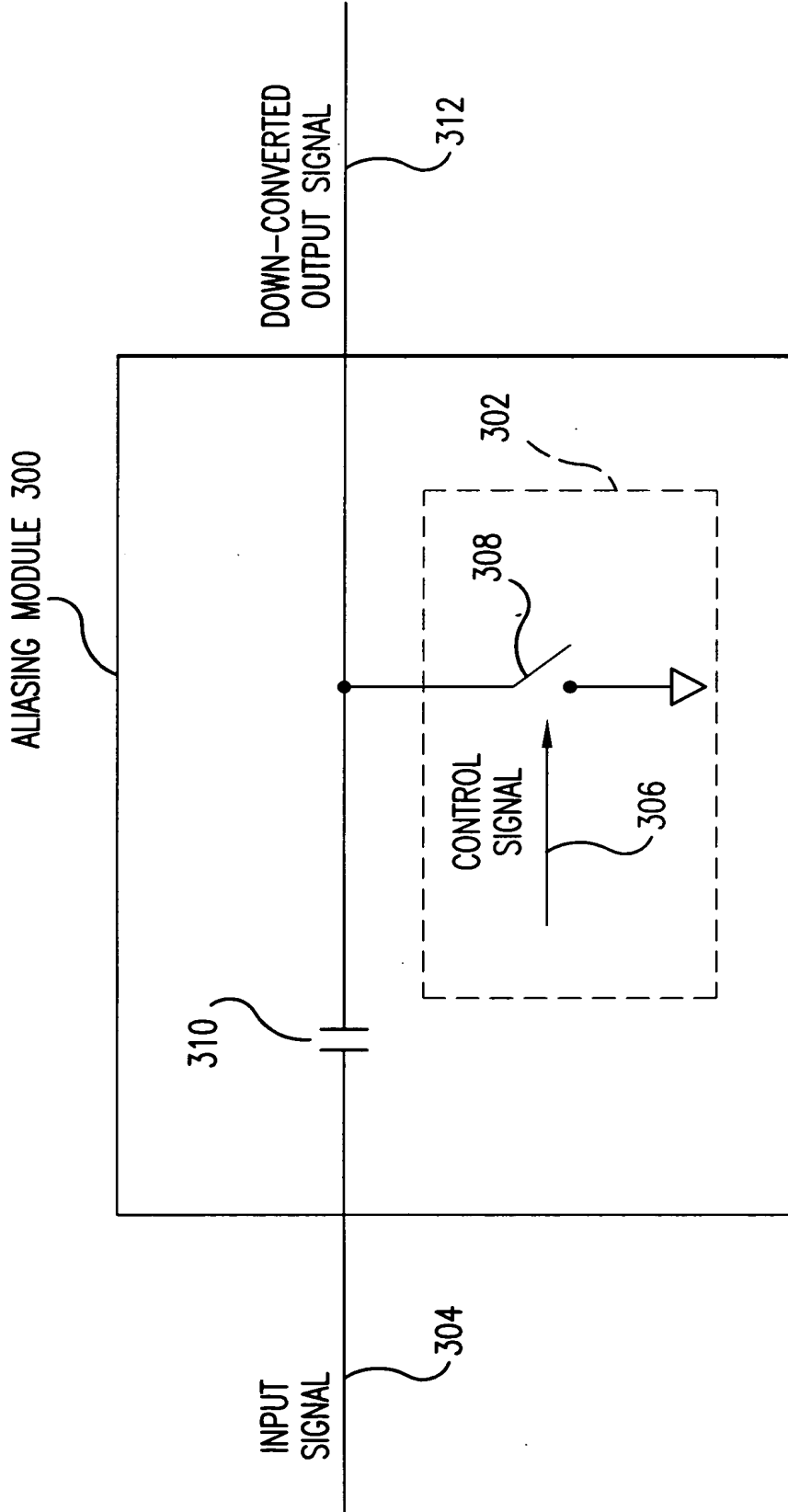


FIG. 3G

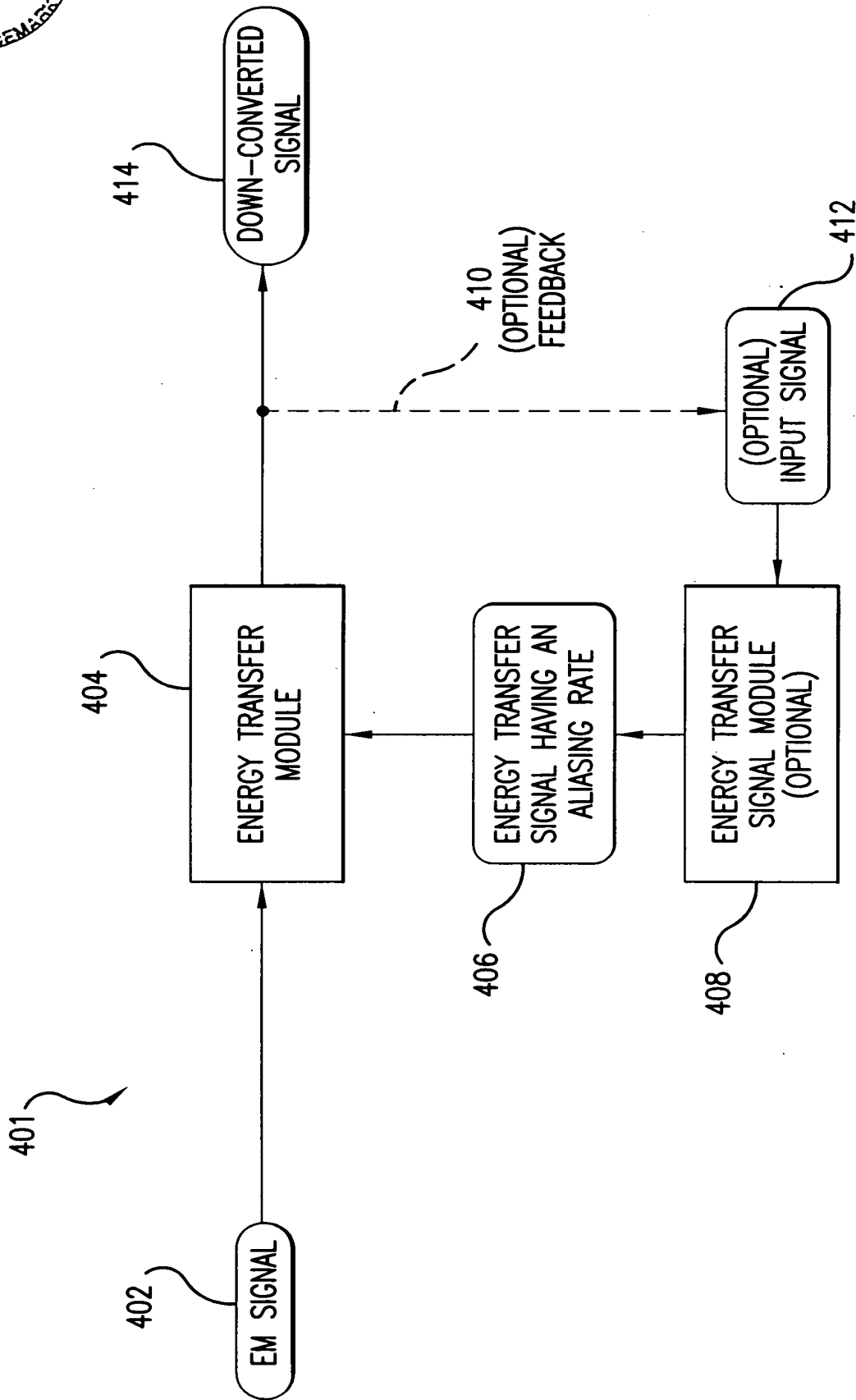


FIG. 4

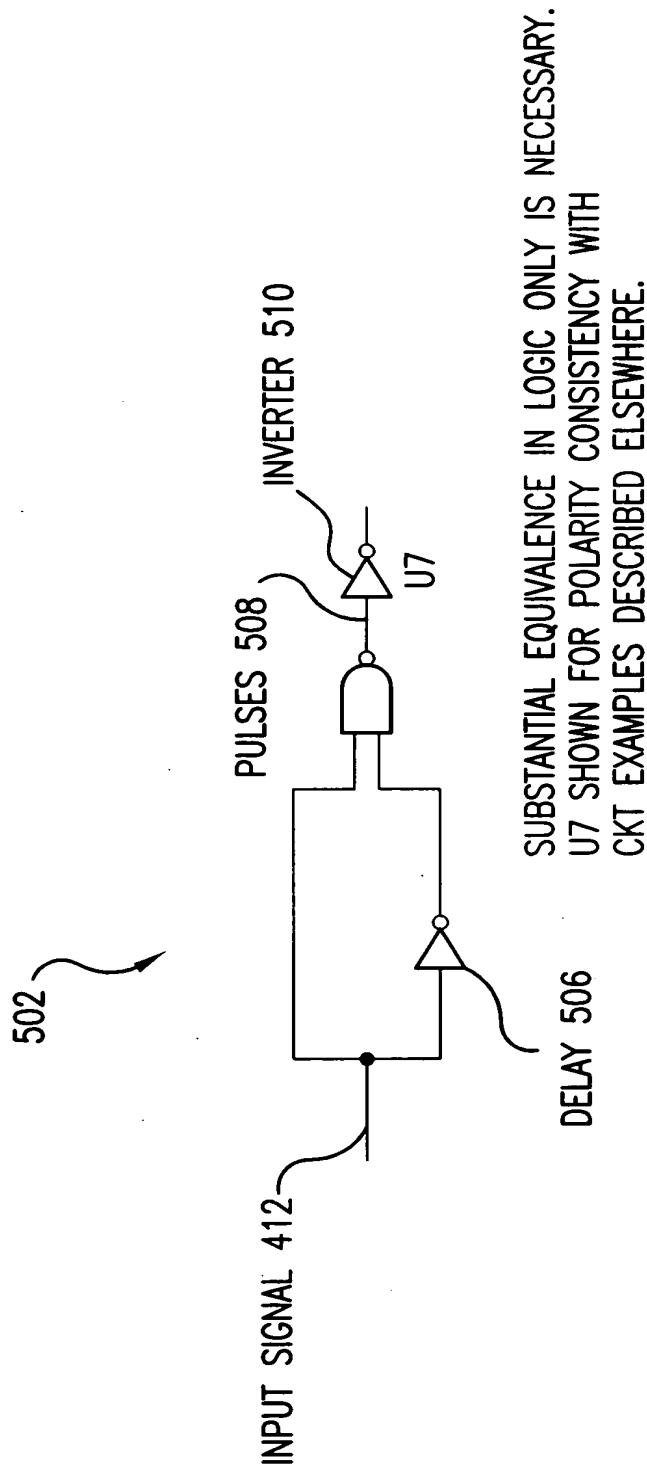


FIG. 5

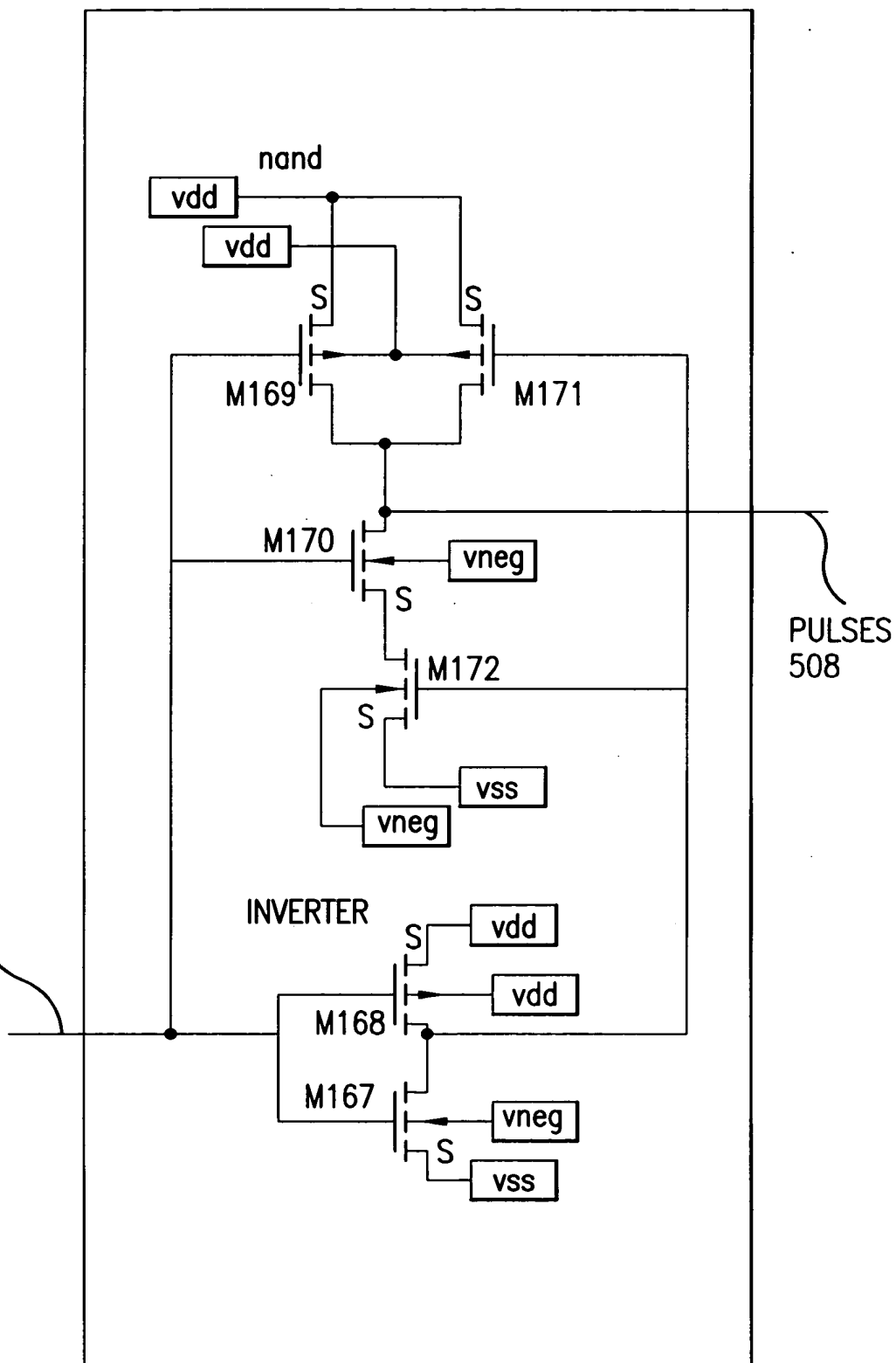


FIG. 6A

Appl. No. 09/986,764; Filed: November 9, 2001
Dkt. No. 1744.1330000; Group Art Unit: 2631
Inventors: Rawlins *et al.*; Tel: 202/371-2600
Title: Method and Apparatus for Reducing DC Offsets
In a Communication System

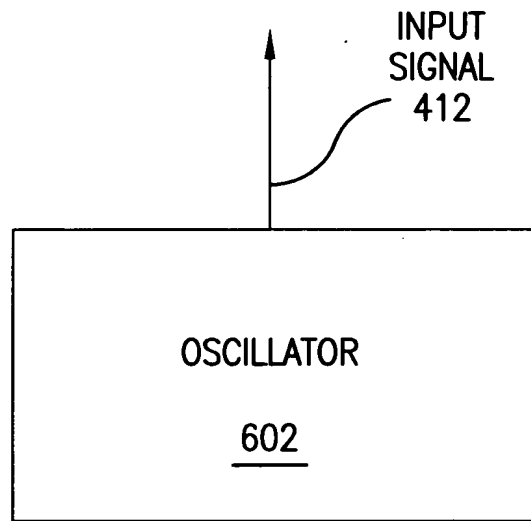


FIG. 6B

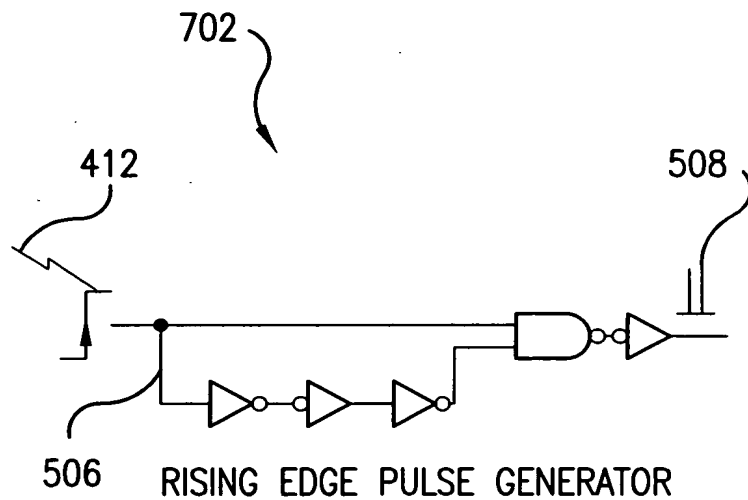


FIG. 7A

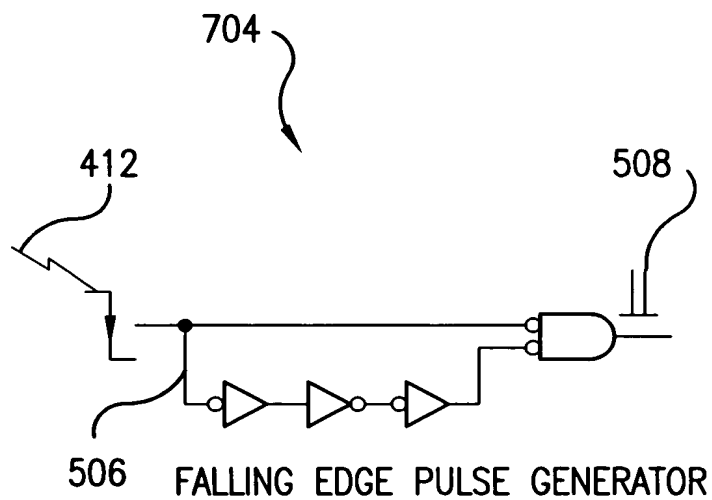
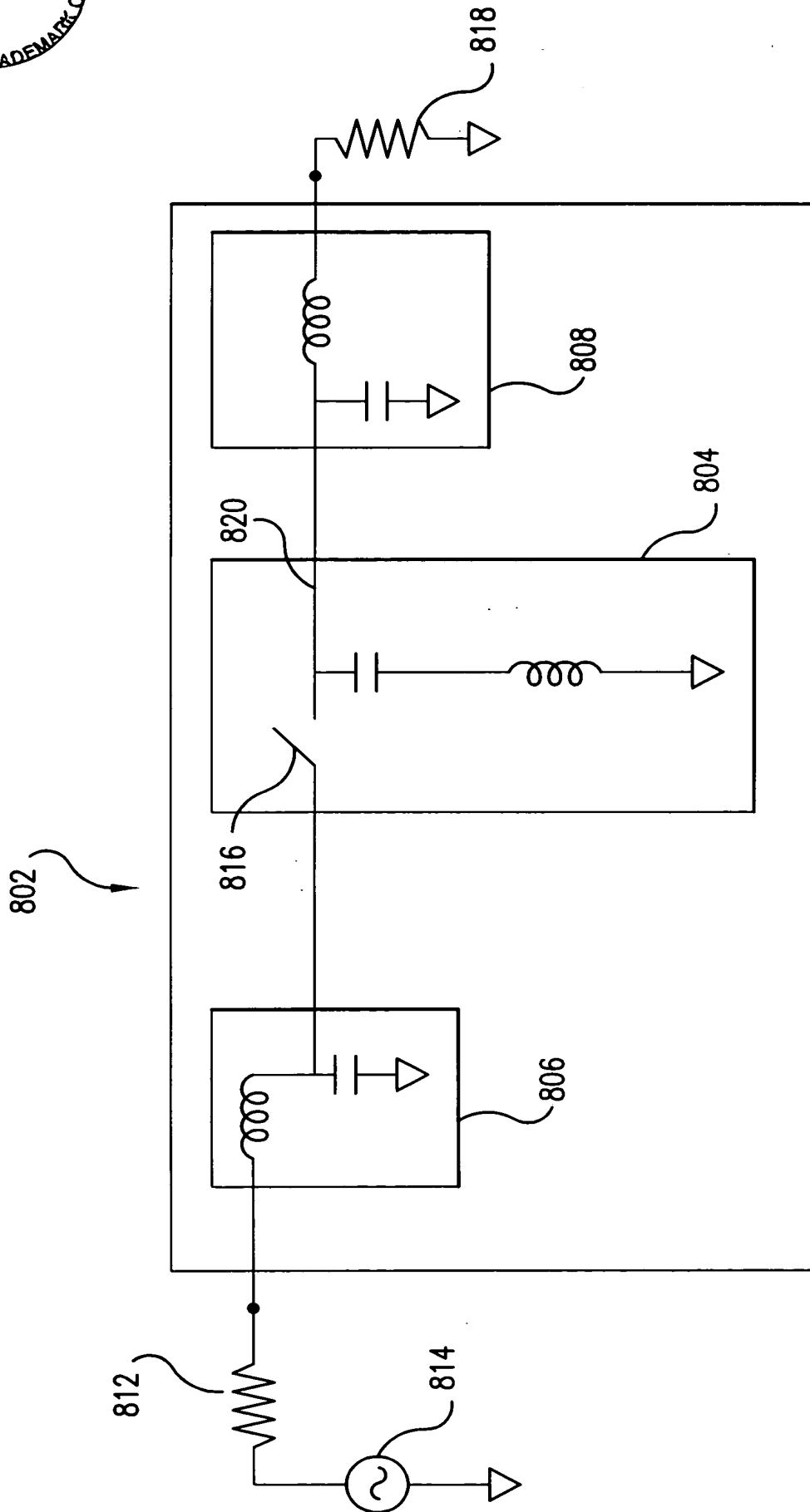
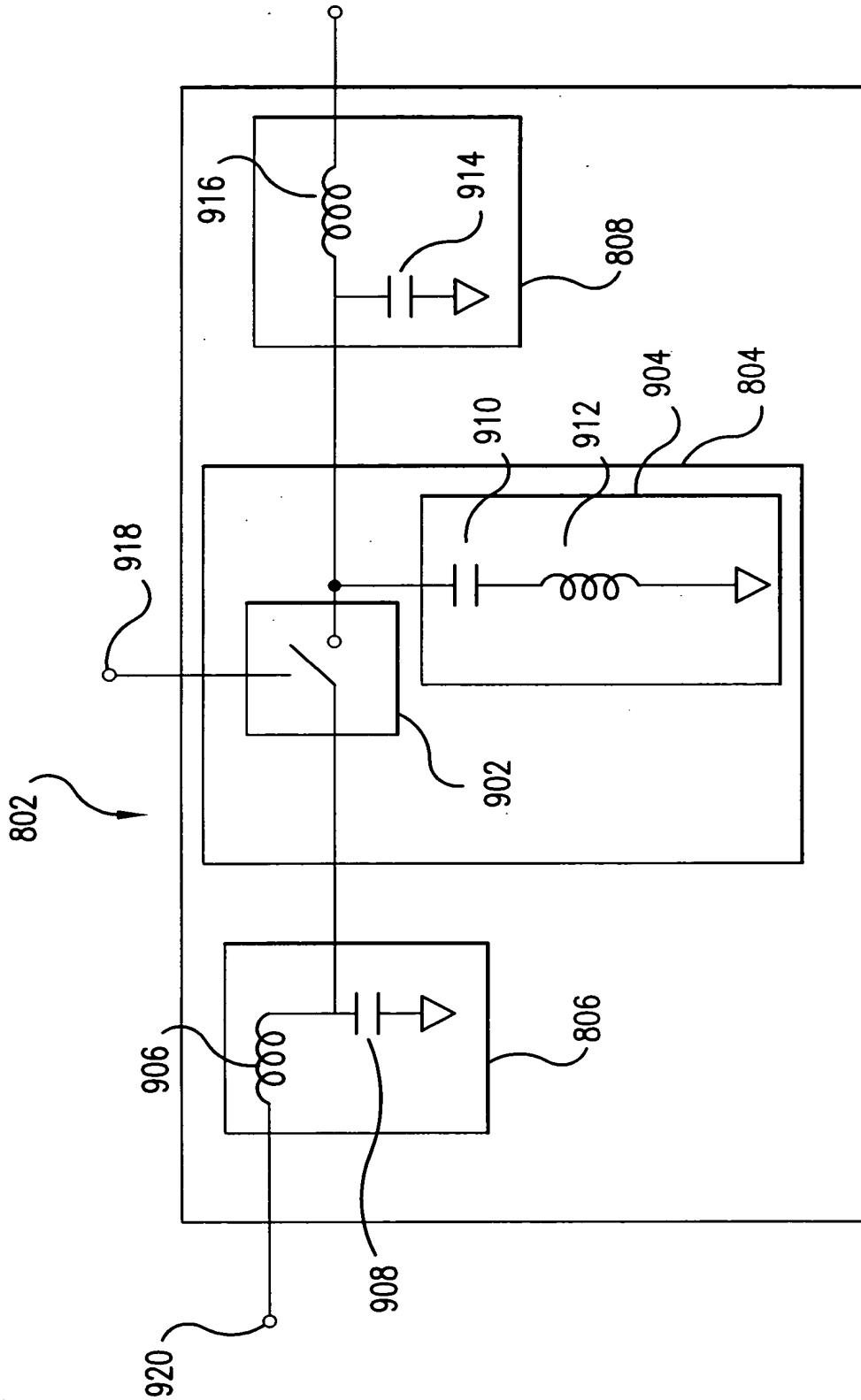


FIG. 7B



IMPEDANCE MATCHED ALIASING MODULE

FIG. 8



ALIASING MODULE

FIG. 9

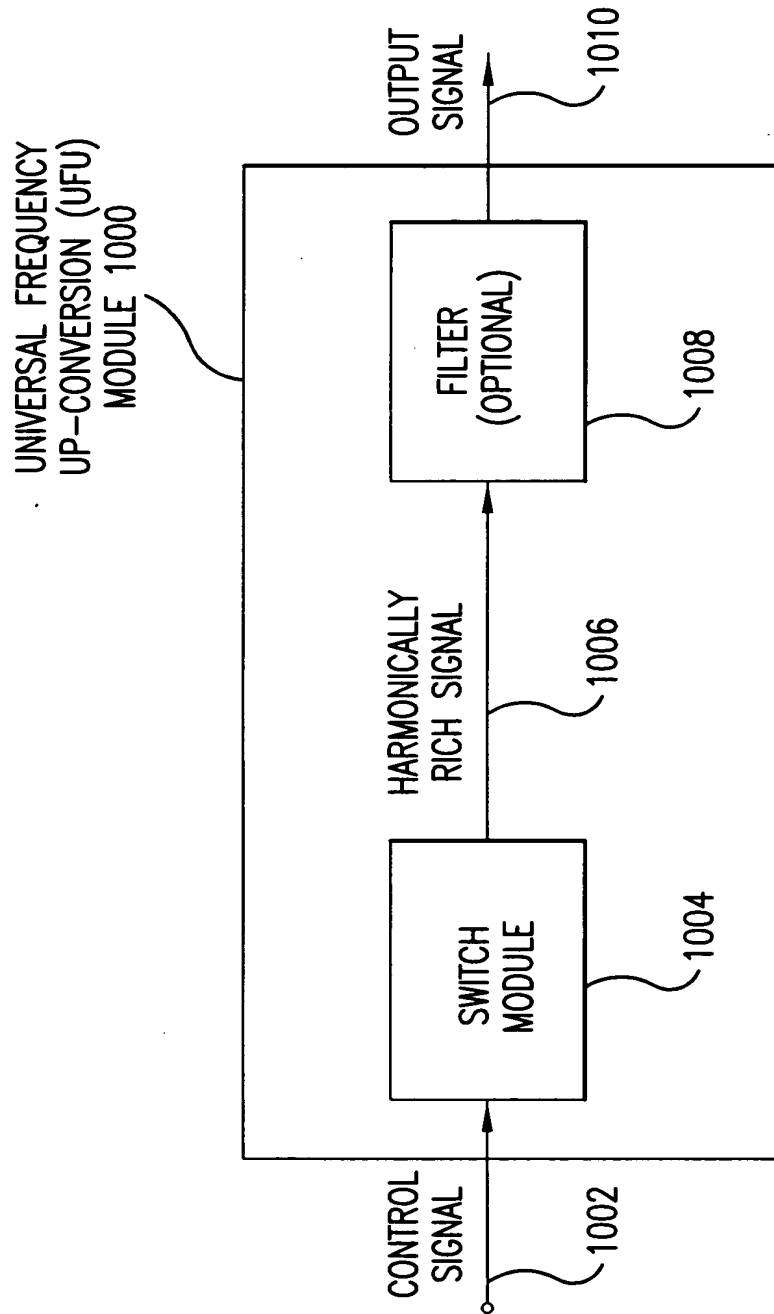
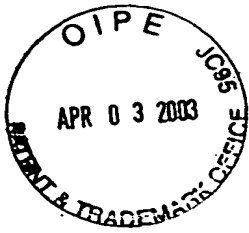


FIG. 10



UNIVERSAL FREQUENCY
 UP-CONVERSION (UFU)
 MODULE 1101

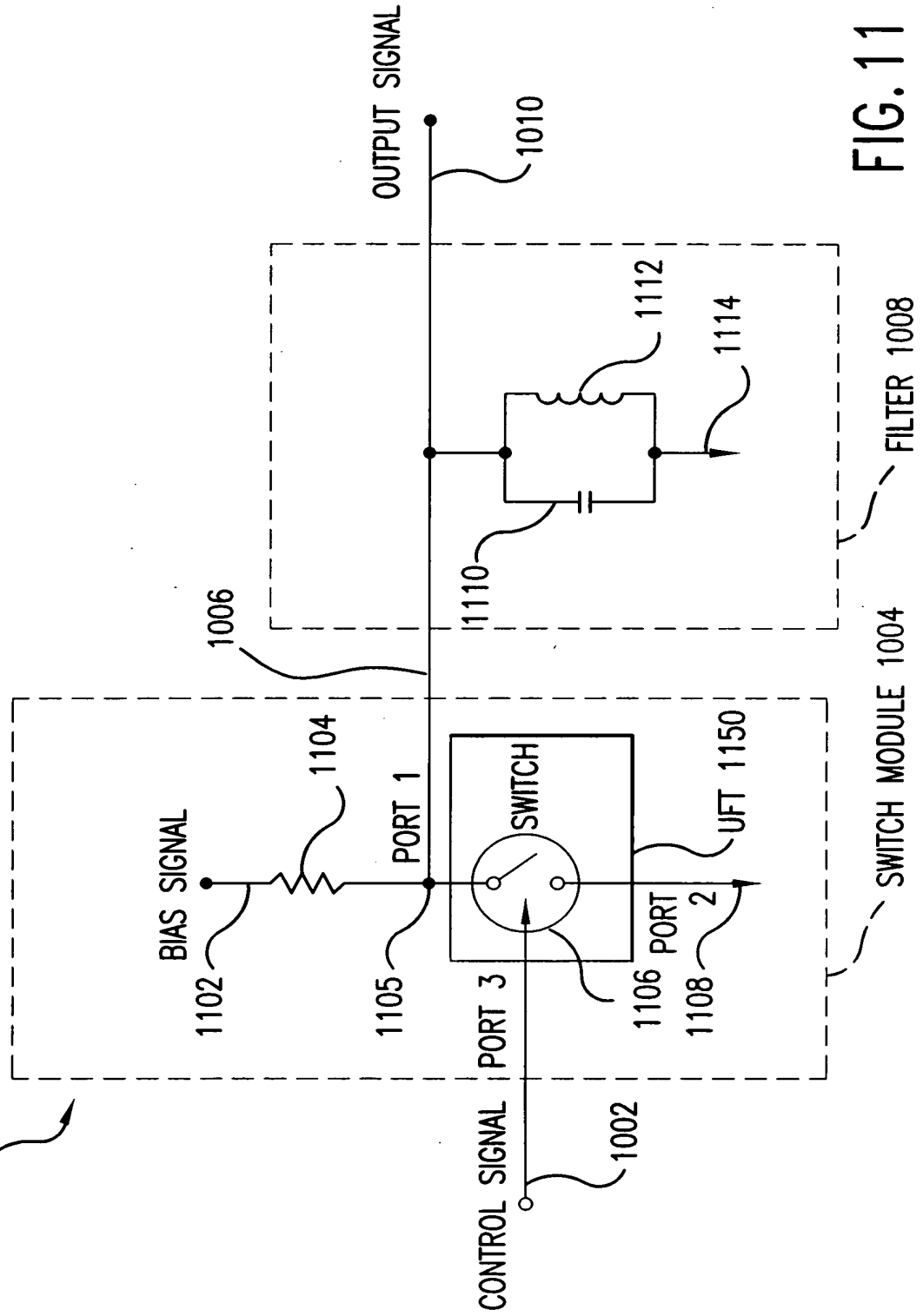


FIG. 11



UNIVERSAL FREQUENCY
UP-CONVERSION
(UFU) MODULE 1290

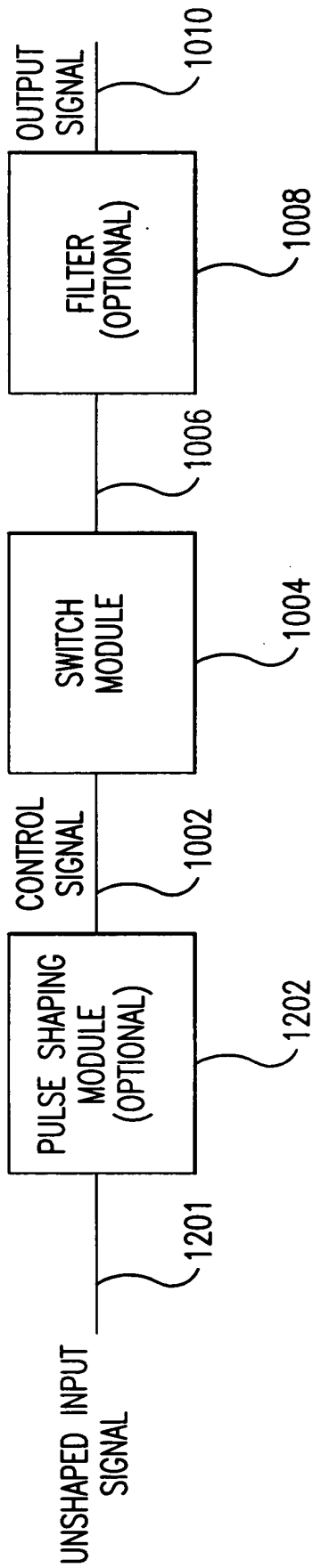
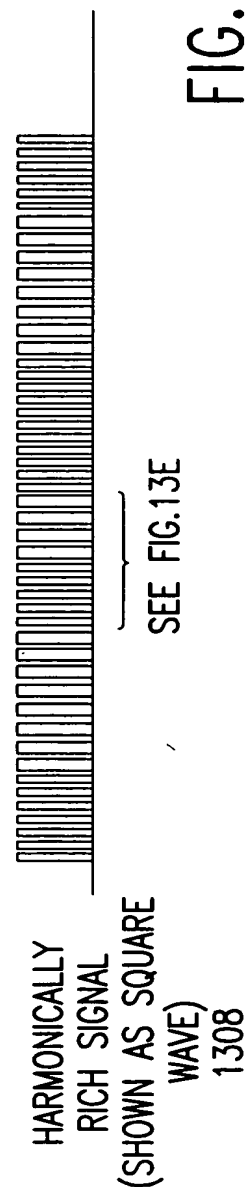
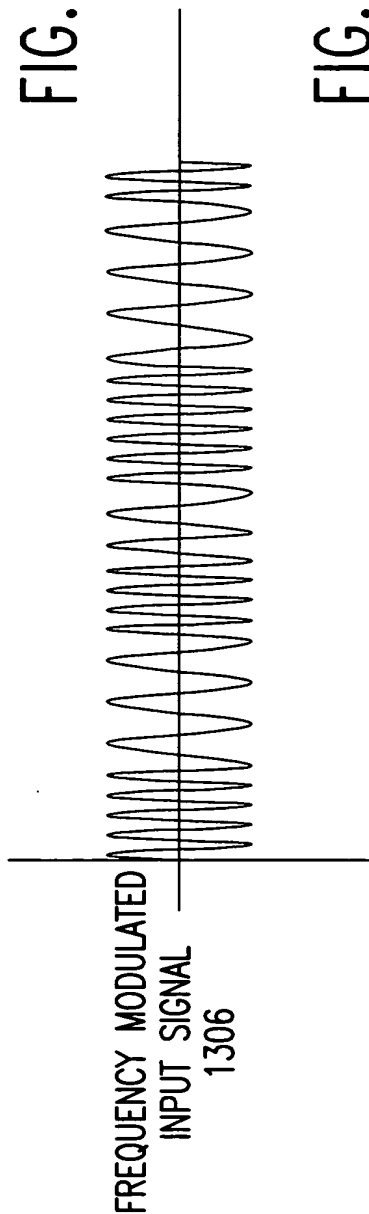
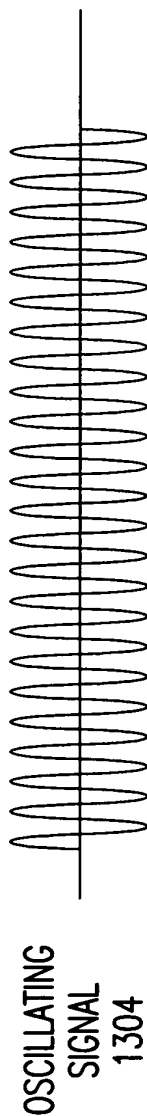
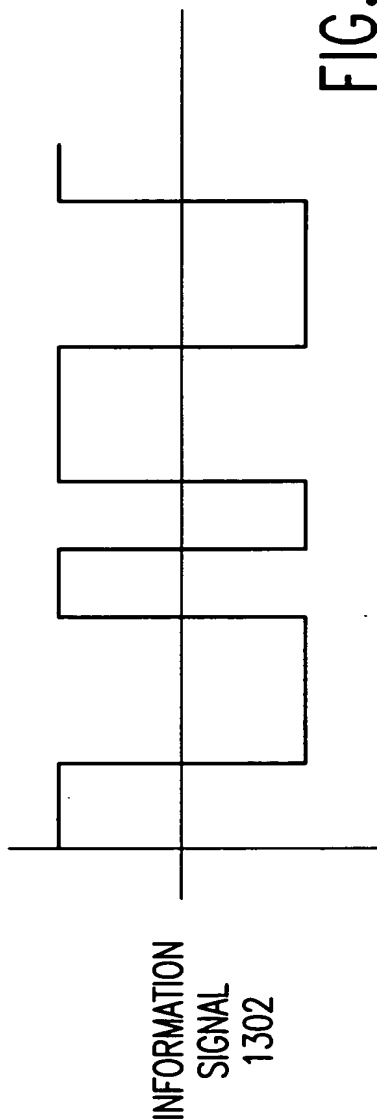
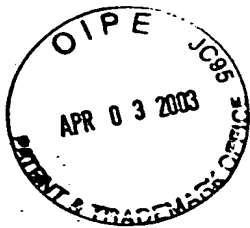
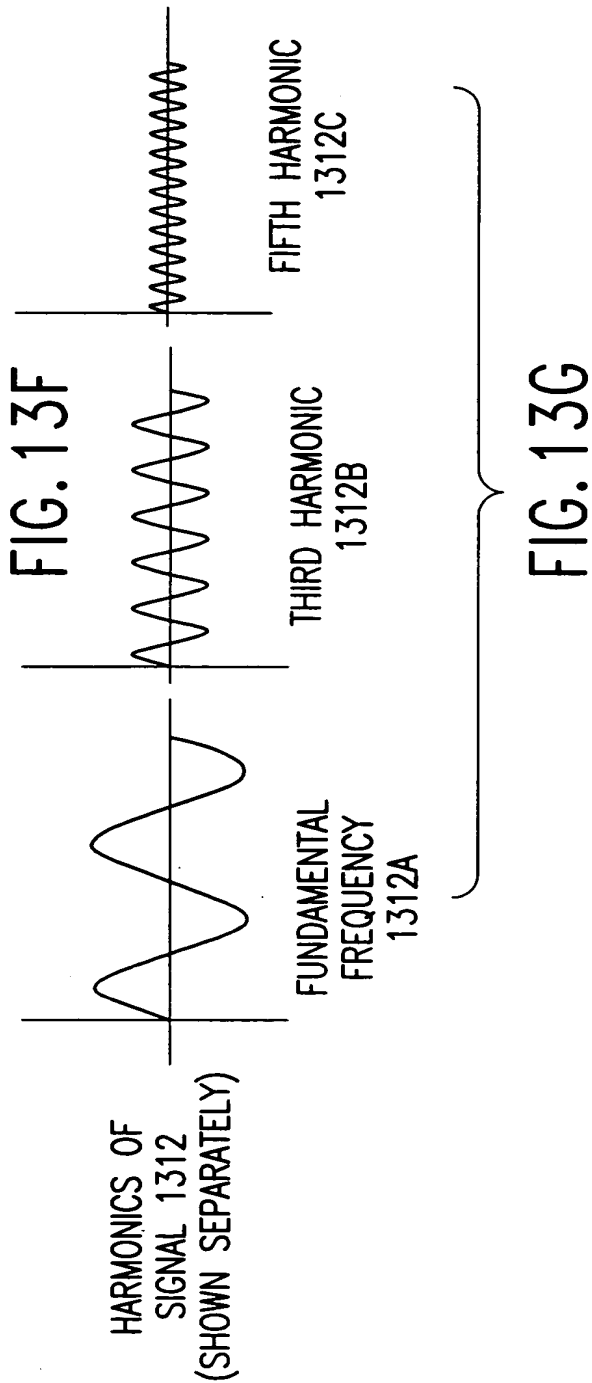
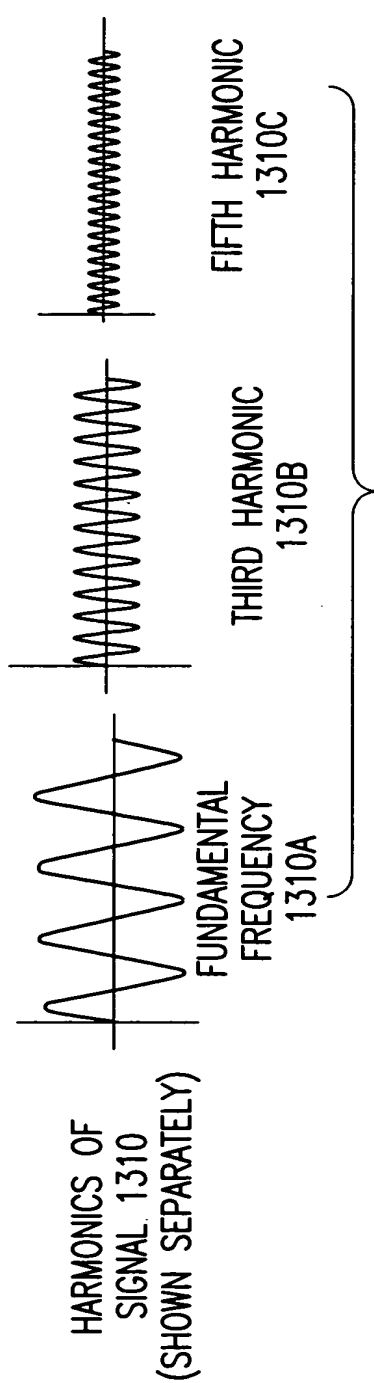
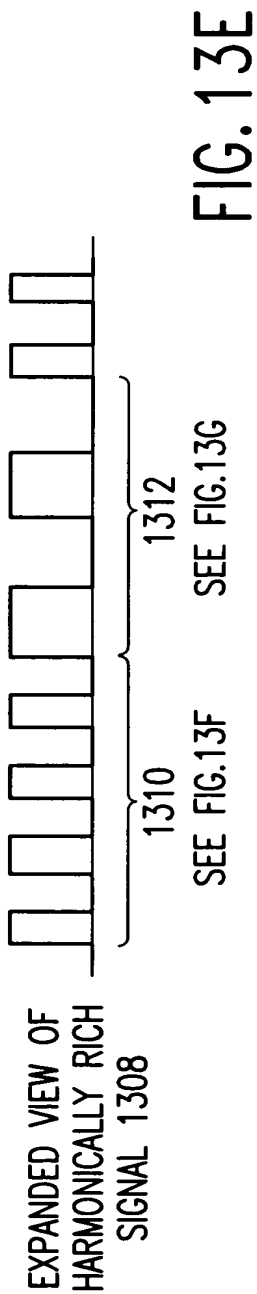


FIG. 12



SEE FIG. 13E



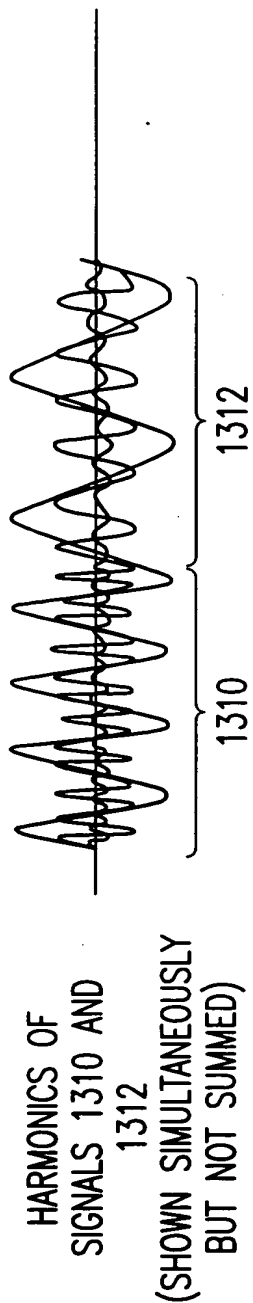


FIG. 13H

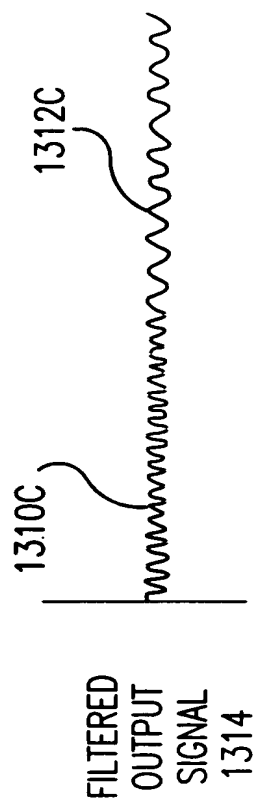
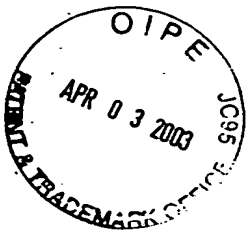


FIG. 13I



UNIFIED DOWNCONVERTING AND
 FILTERING (UDF) MODULE 1402

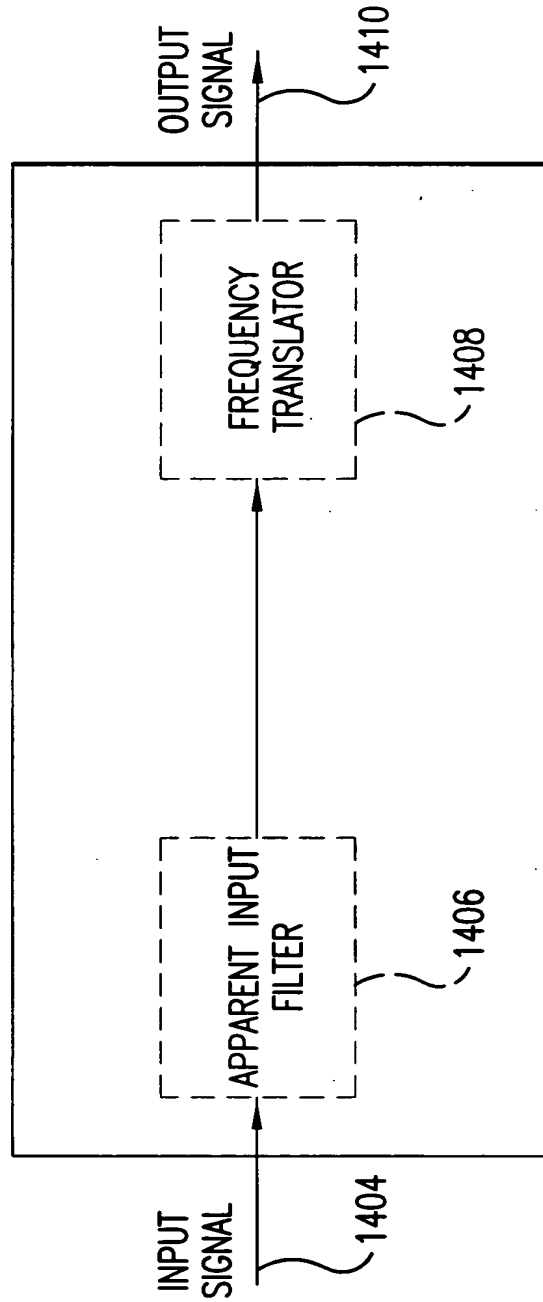


FIG. 14

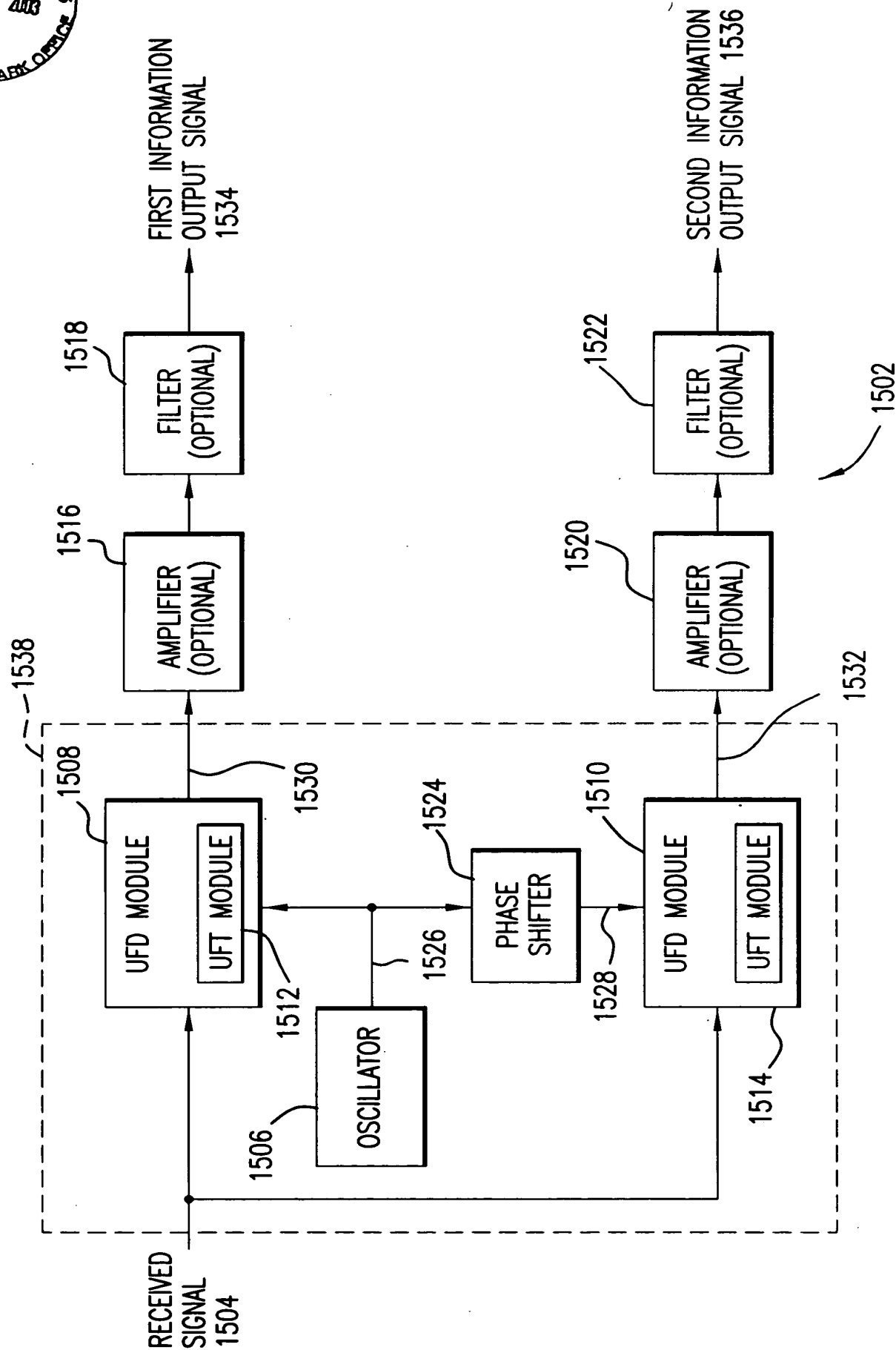


FIG.15

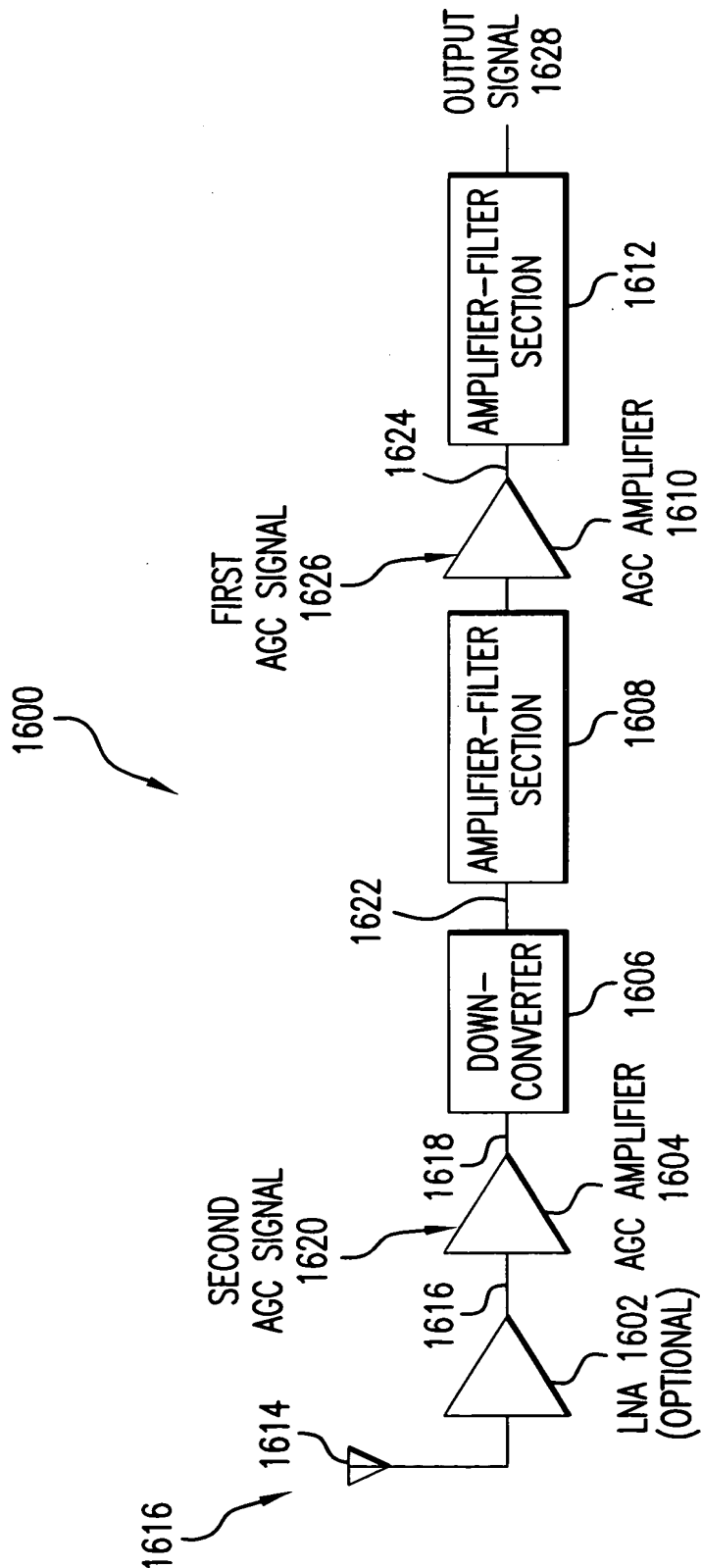


FIG. 16

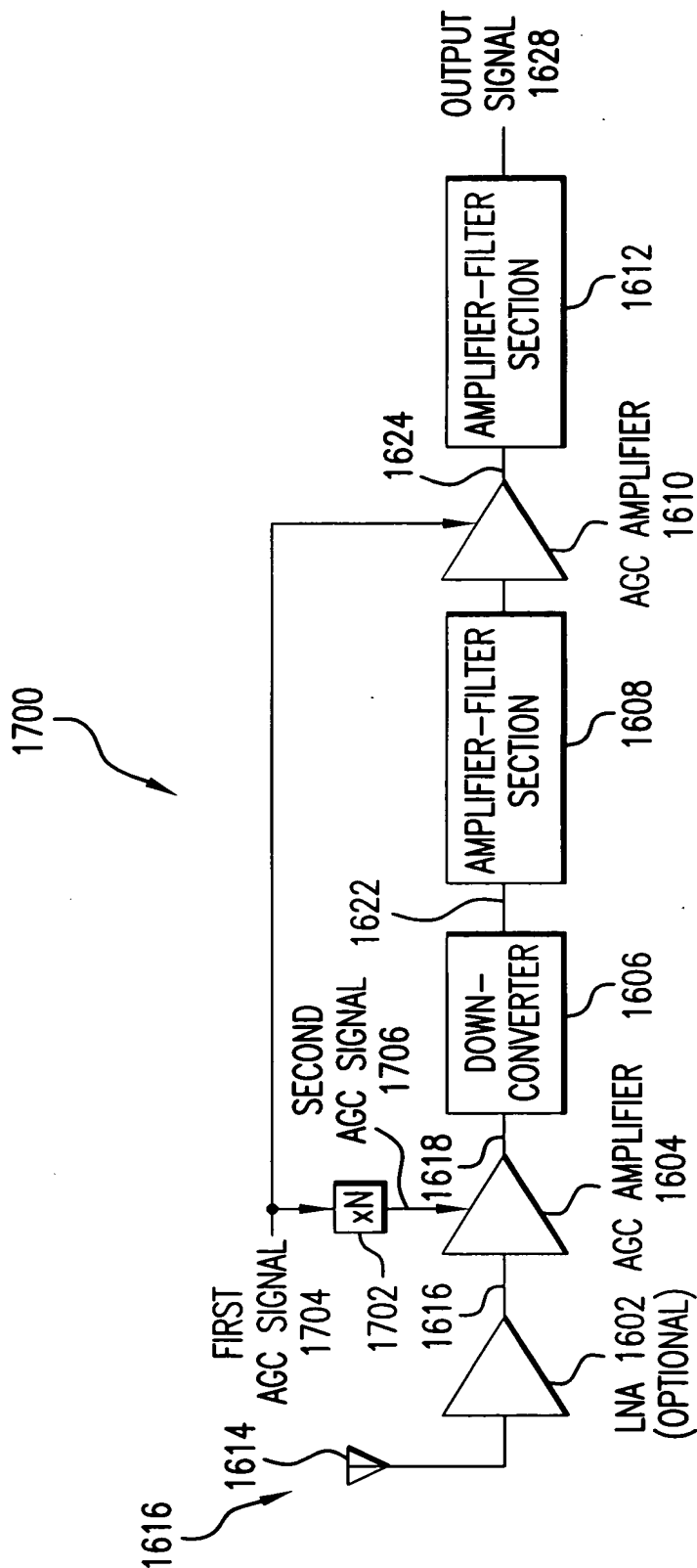
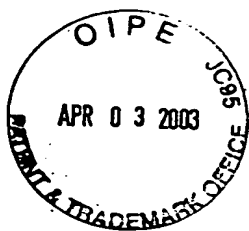


FIG. 17

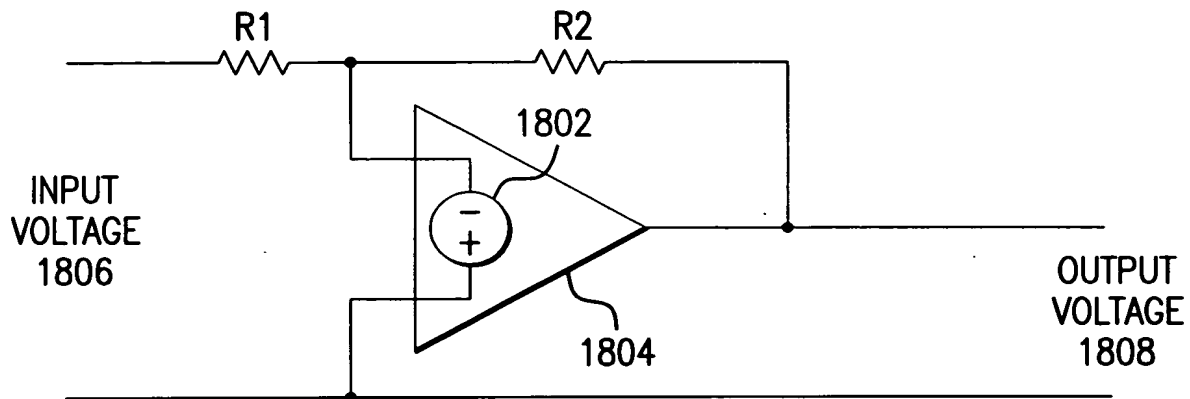


FIG. 18

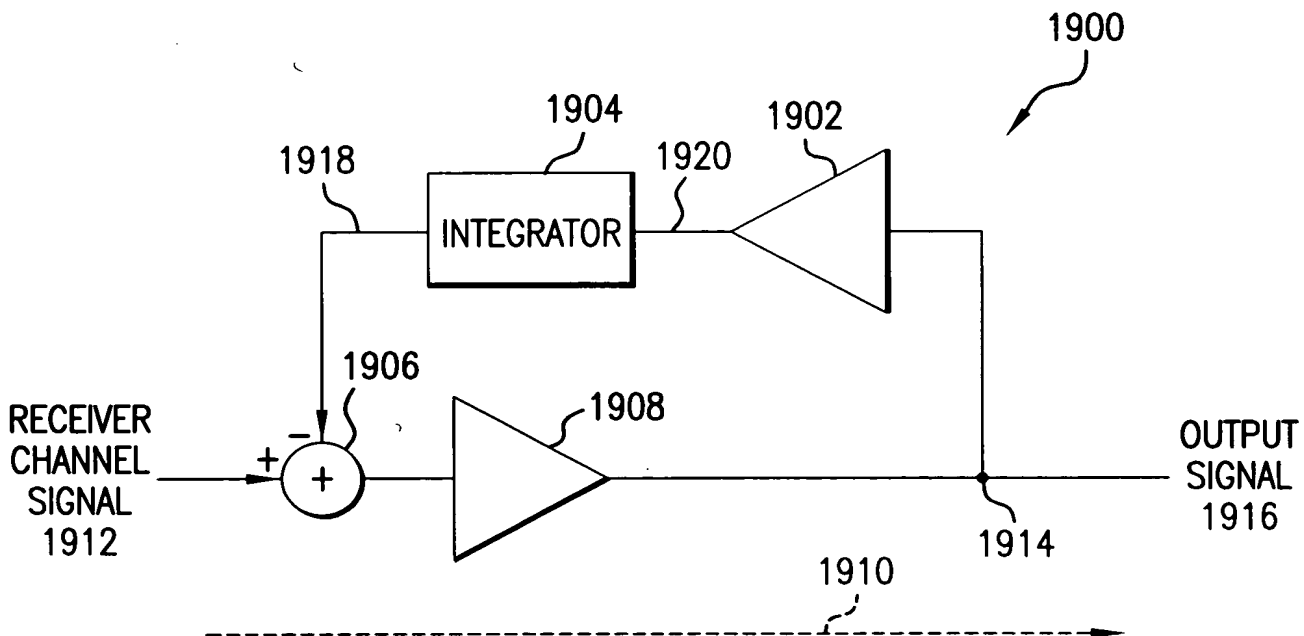


FIG. 19

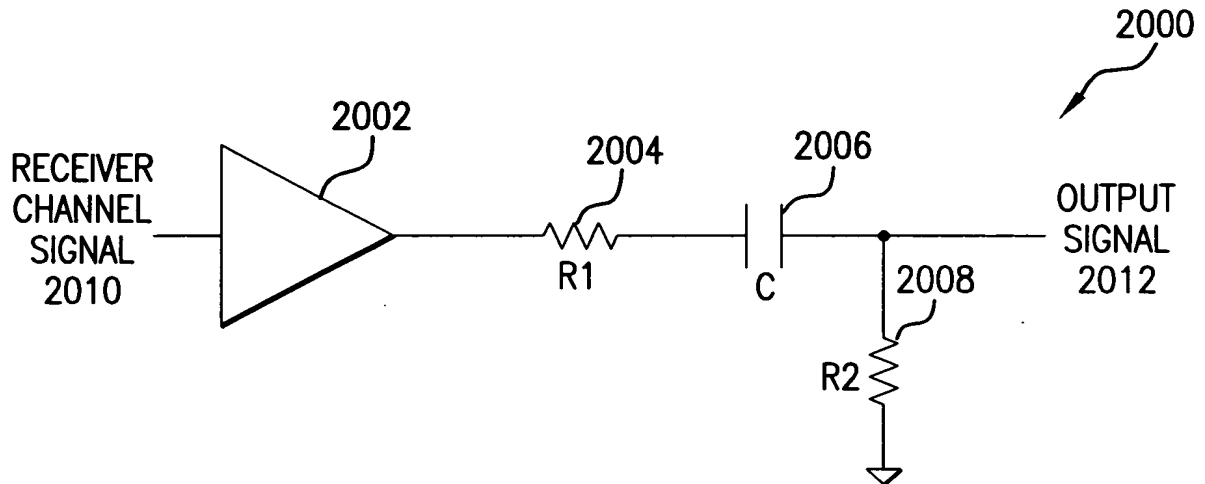


FIG. 20

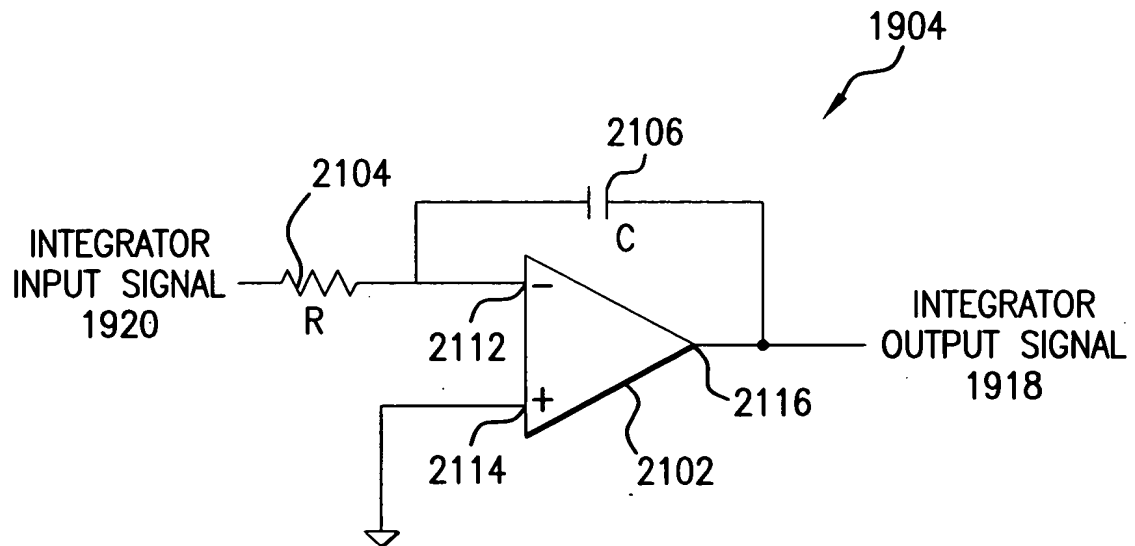


FIG. 21

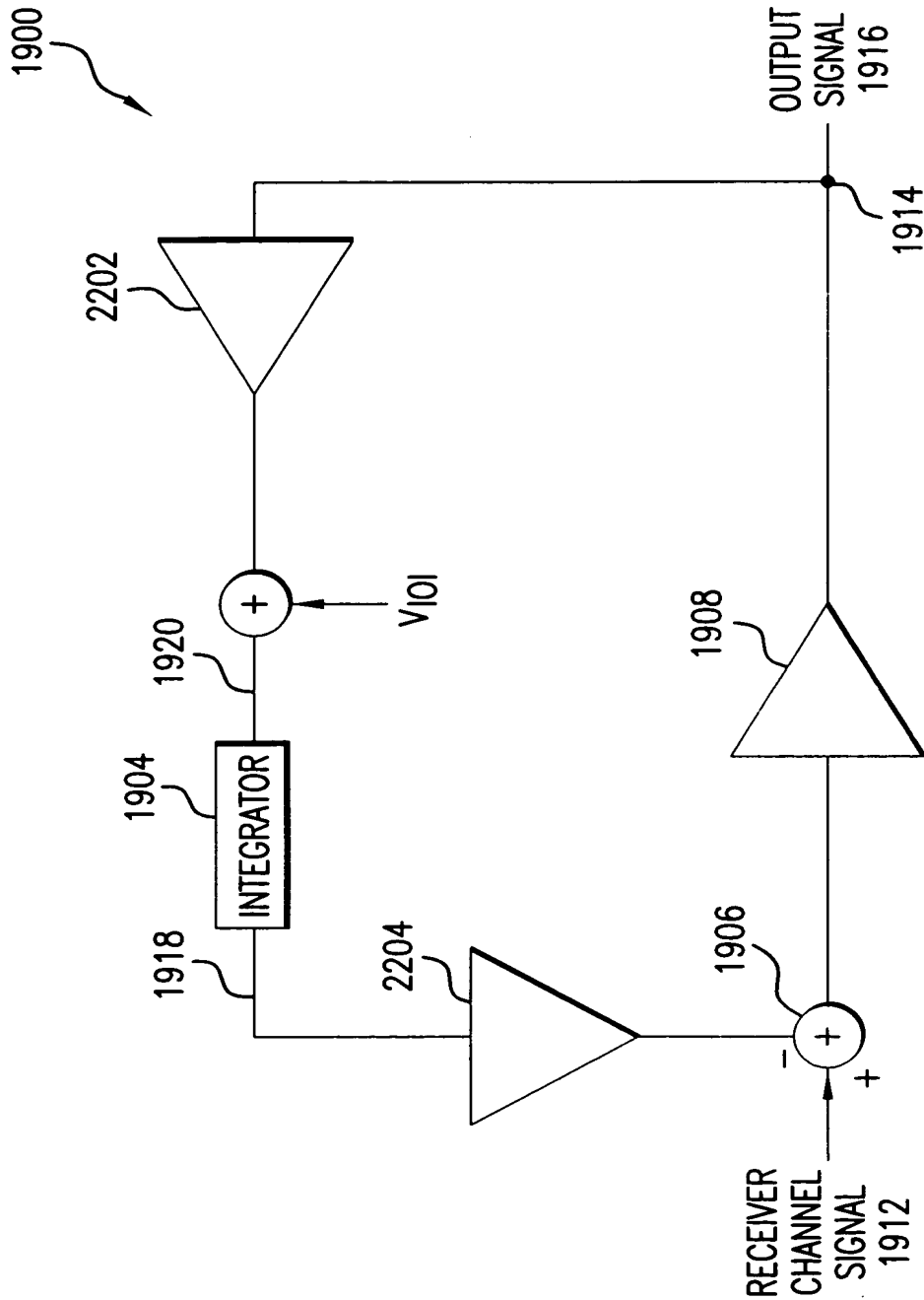


FIG. 22

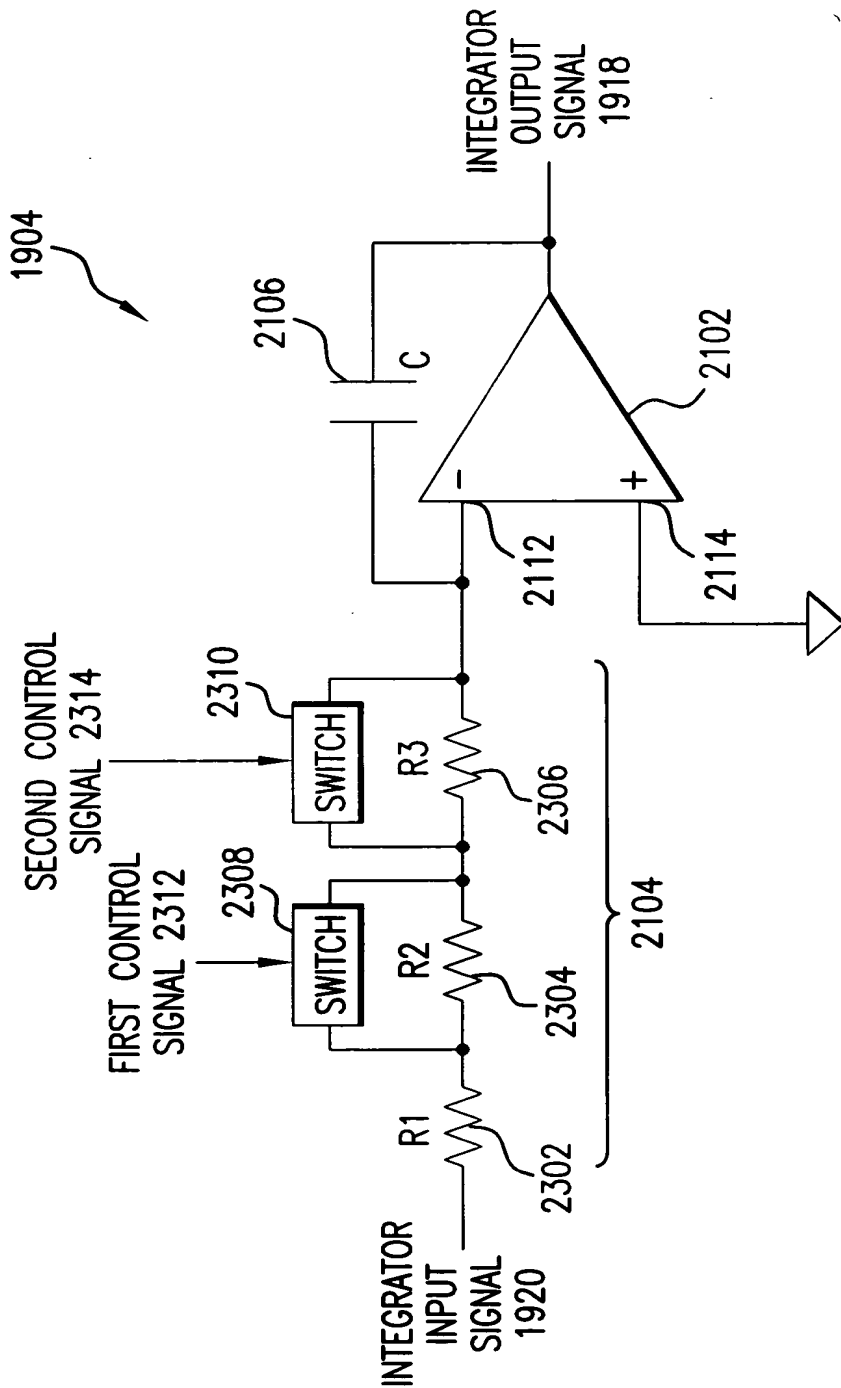


FIG. 23

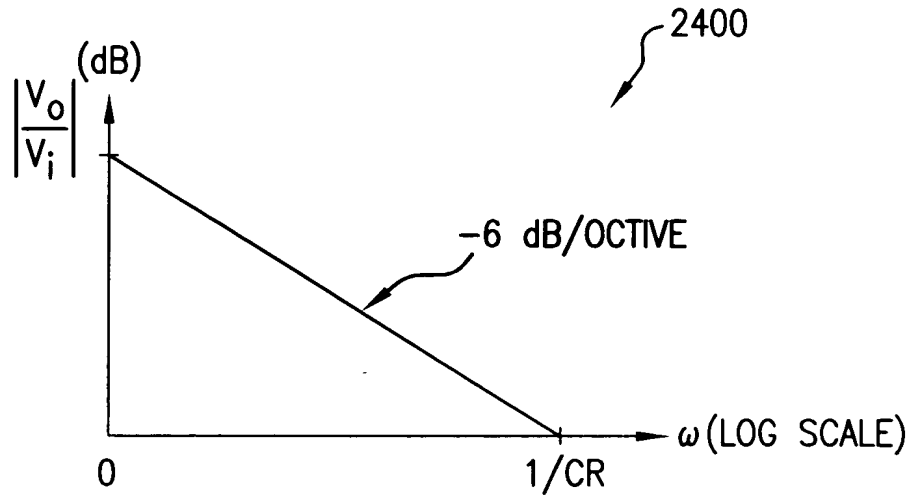


FIG. 24A

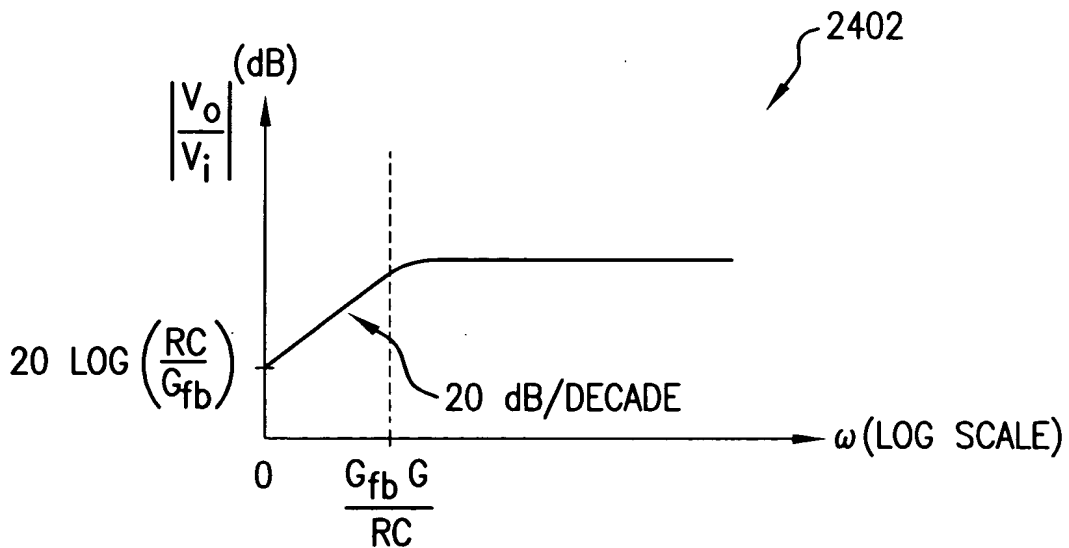


FIG. 24B

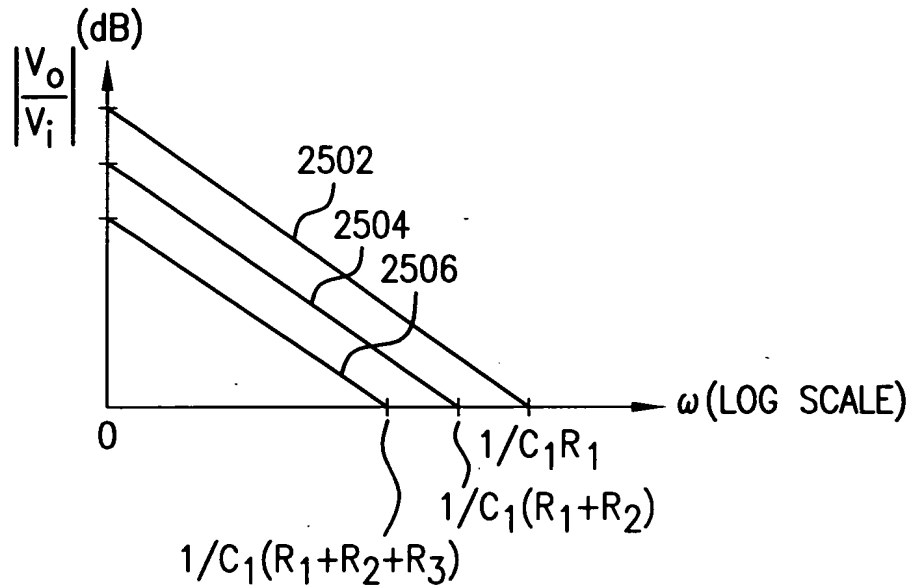


FIG. 25A

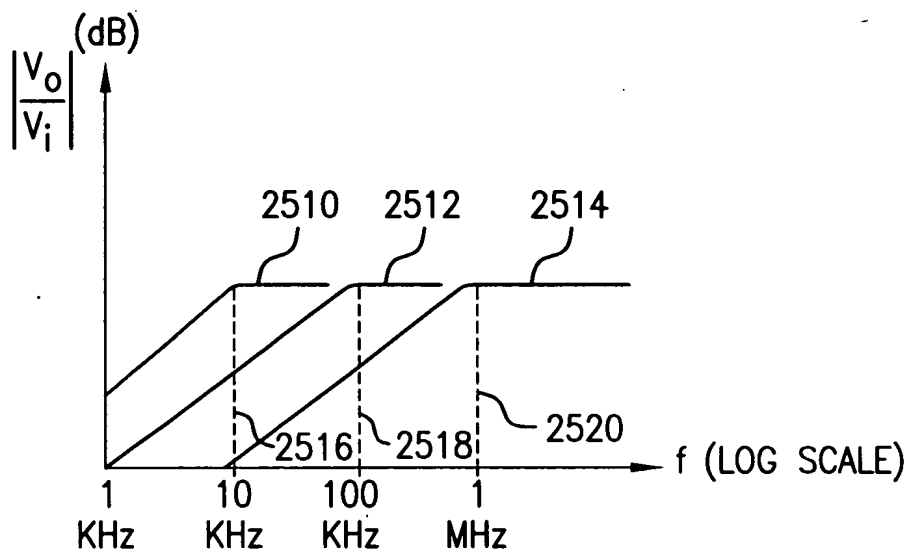


FIG. 25B

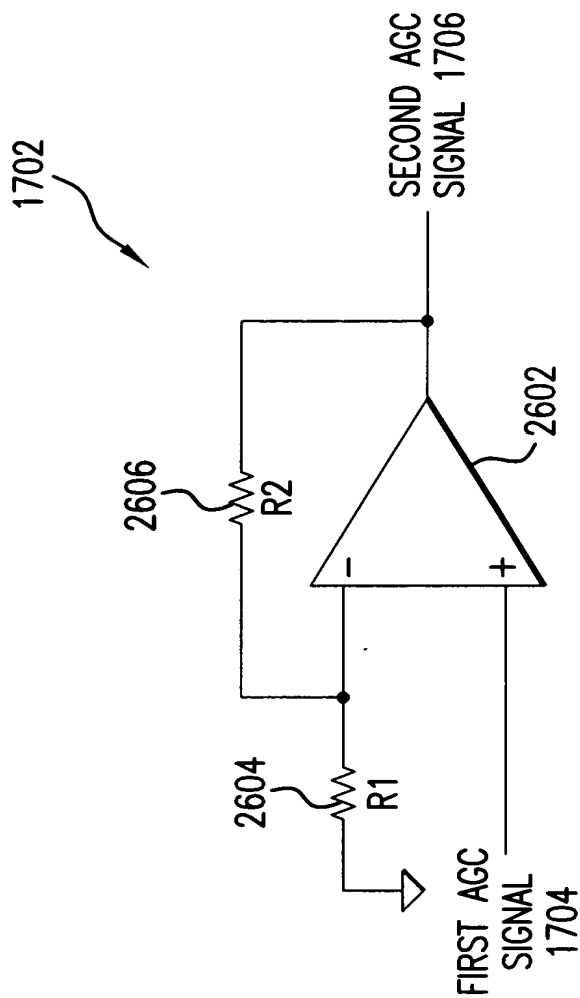


FIG. 26

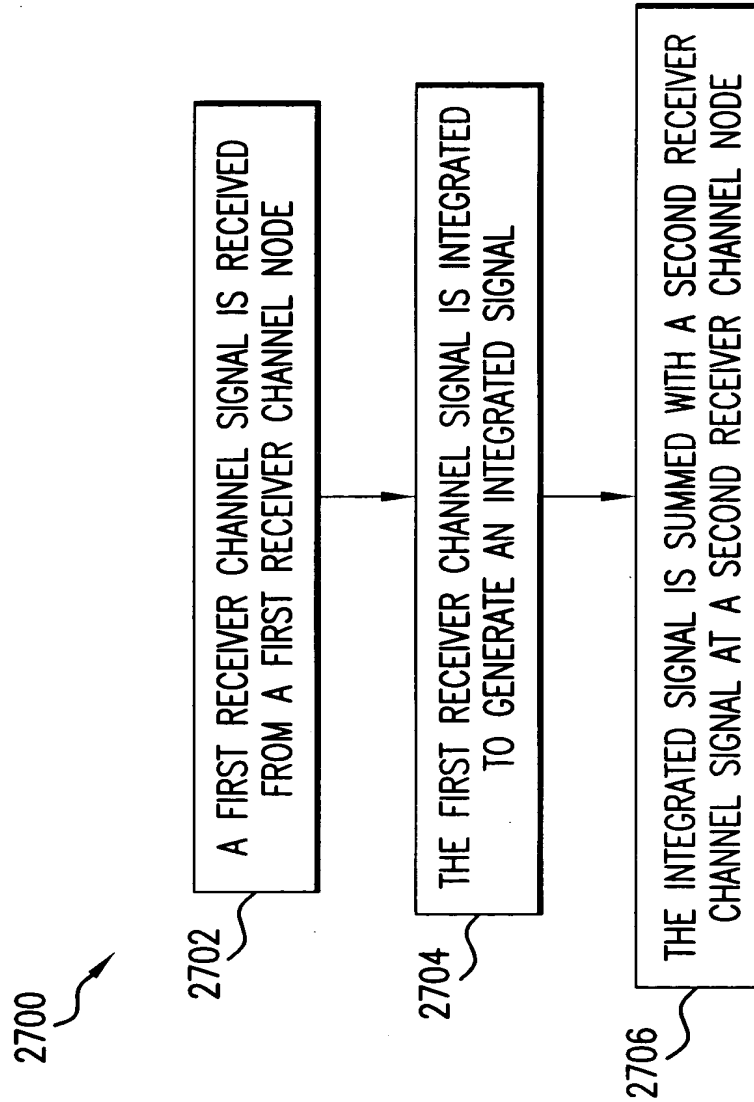


FIG. 27

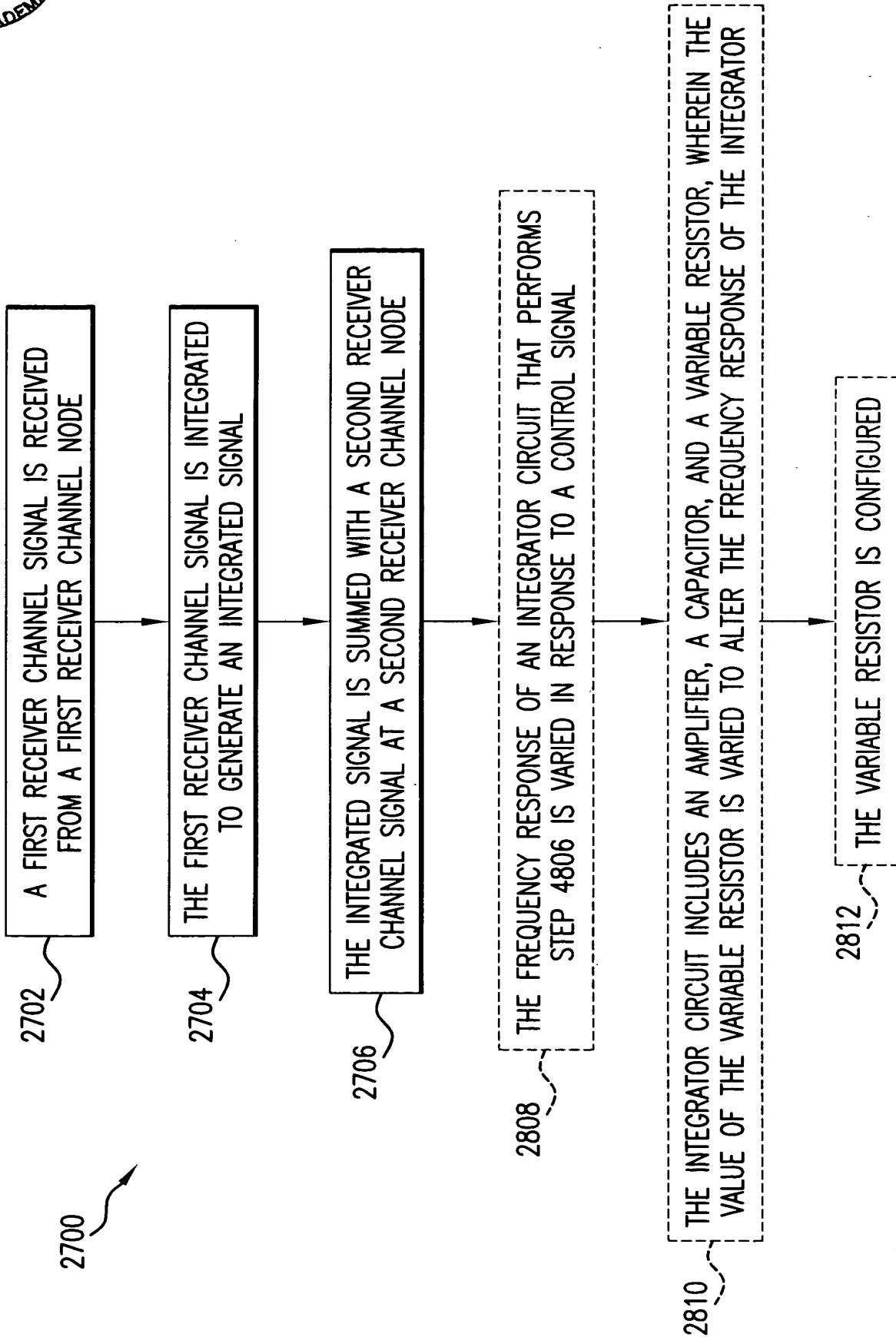


FIG. 28

Appl. No. 09/986,764; Filed: November 9, 2001
 Dkt. No. 1744.1330000; Group Art Unit: 2631
 Inventors: Rawlins *et al.*; Tel: 202/371-2600
 Title: Method and Apparatus for Reducing DC Offsets
 In a Communication System

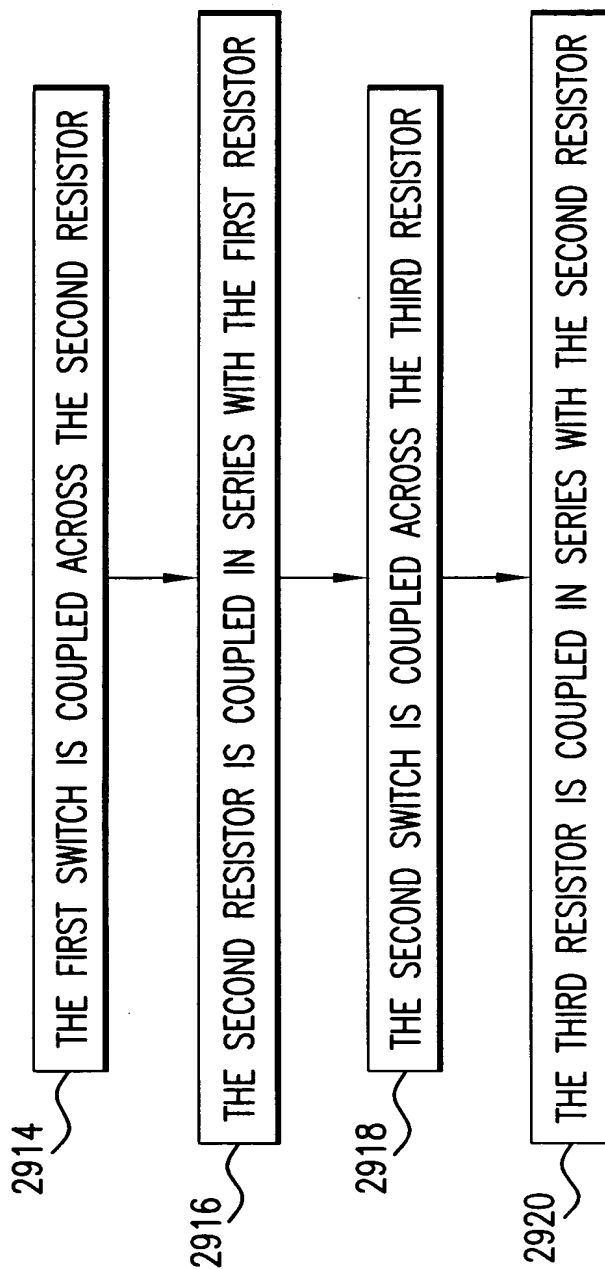


FIG. 29

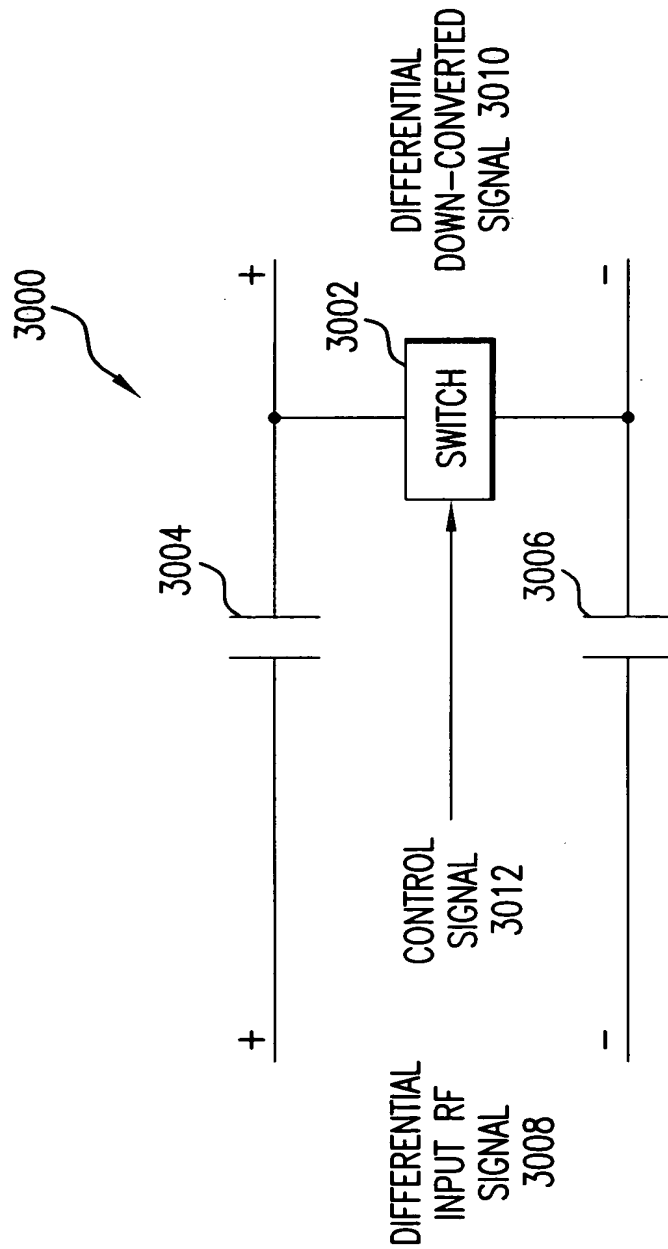


FIG. 30

FIG. 31A

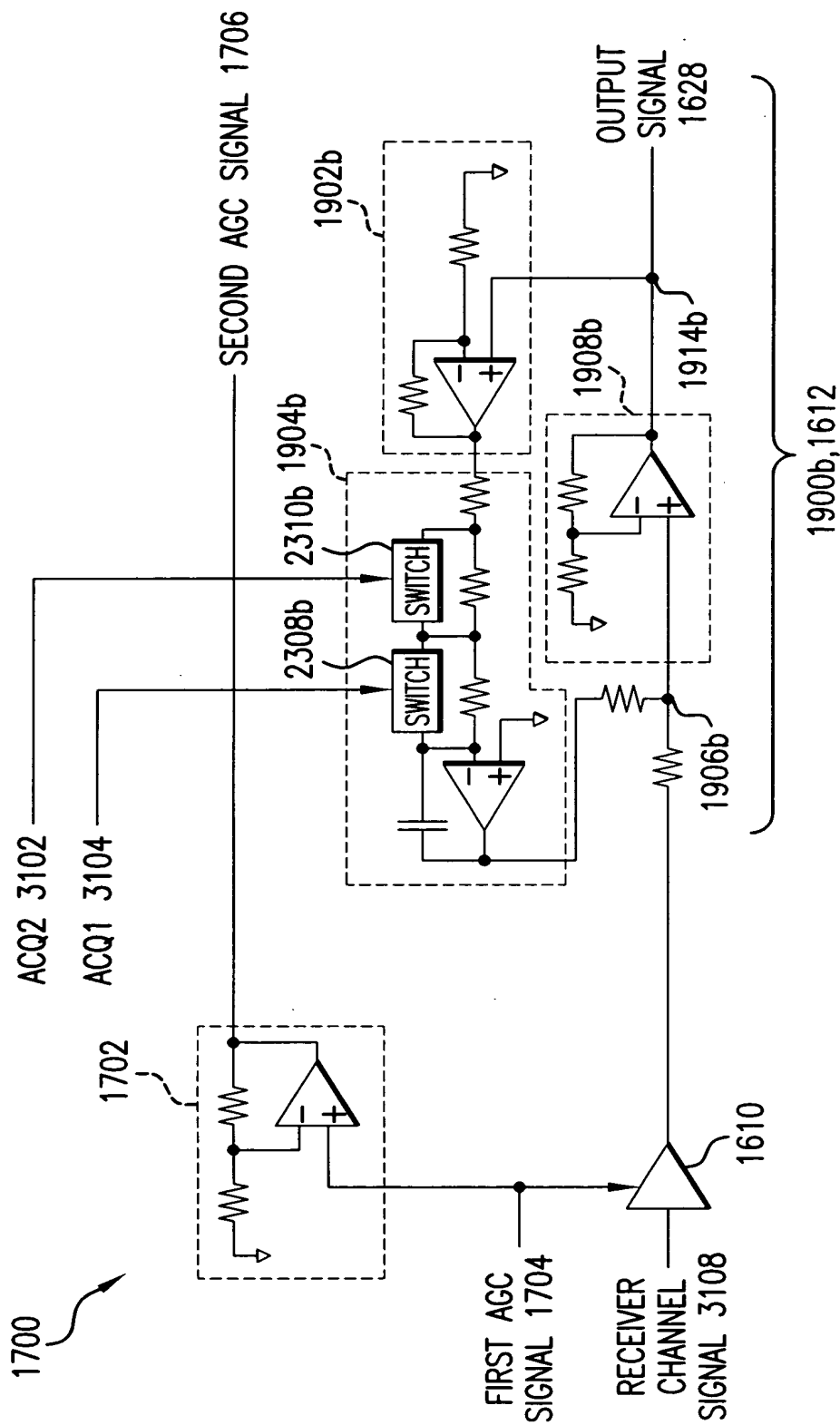


FIG. 31B

Appl. No. 09/986,764; Filed: November 9, 2001
 Dkt. No. 1744.1330000; Group Art Unit: 2631
 Inventors: Rawlins *et al.*; Tel: 202/371-2600
 Title: Method and Apparatus for Reducing DC Offsets
 In a Communication System



FIG.32A-1	FIG.32A-2
FIG.32A-3	FIG.32A-4

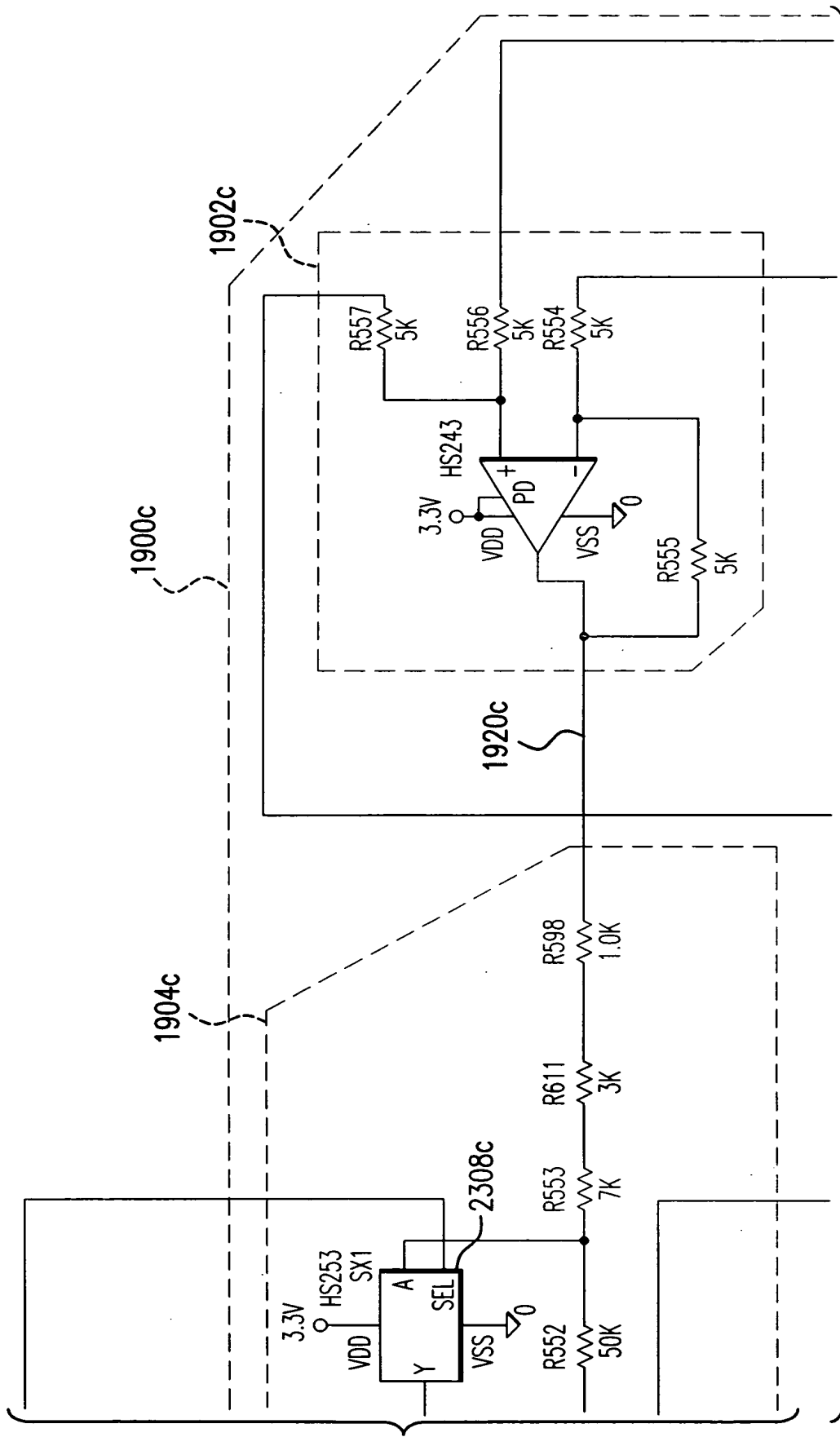
FIG. 32A



CONT'D ON FIG.32A-3

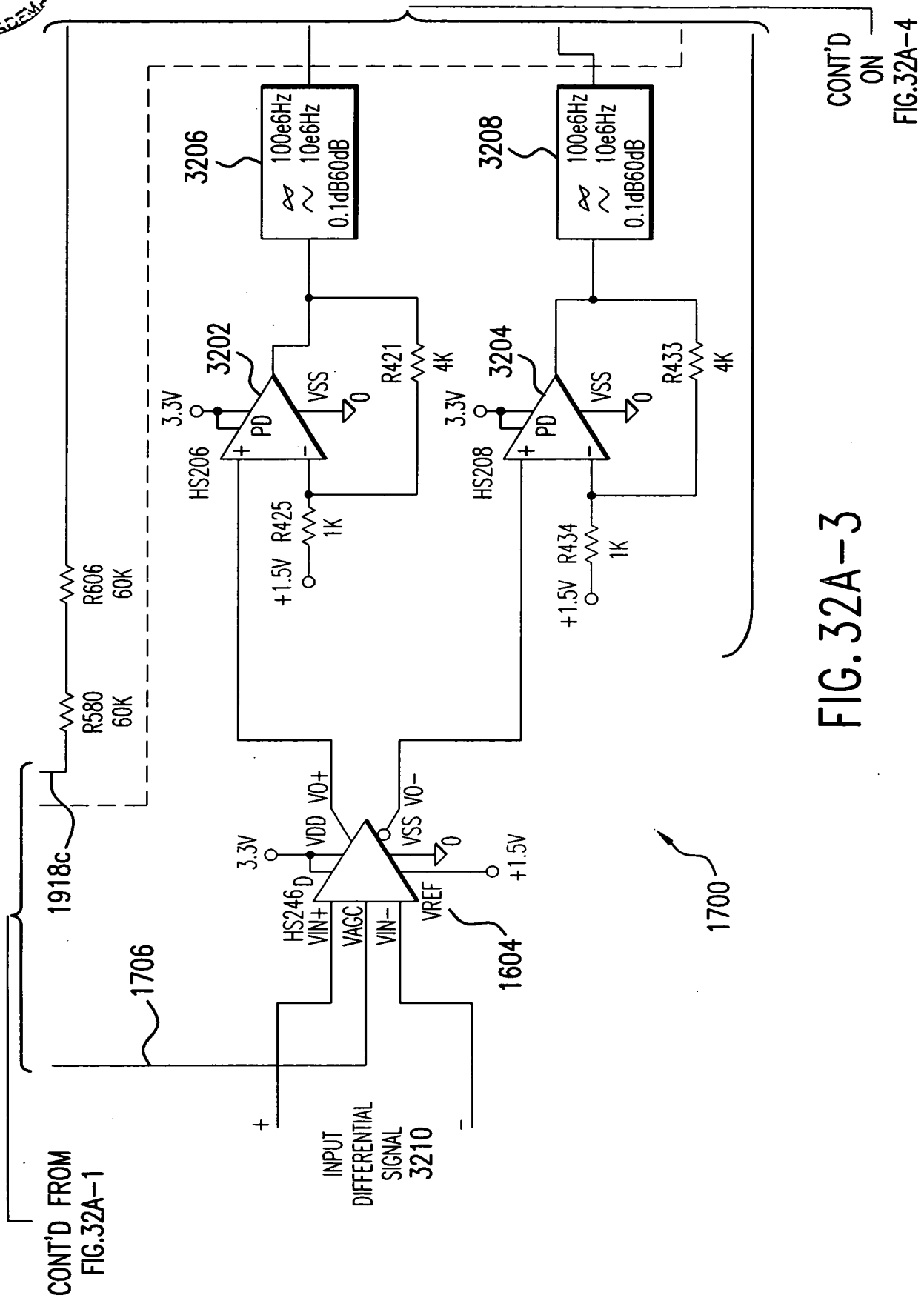
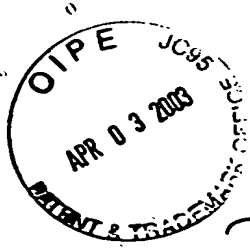


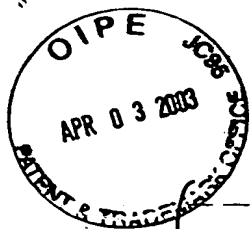
CONT'D FROM
FIG. 32A-1



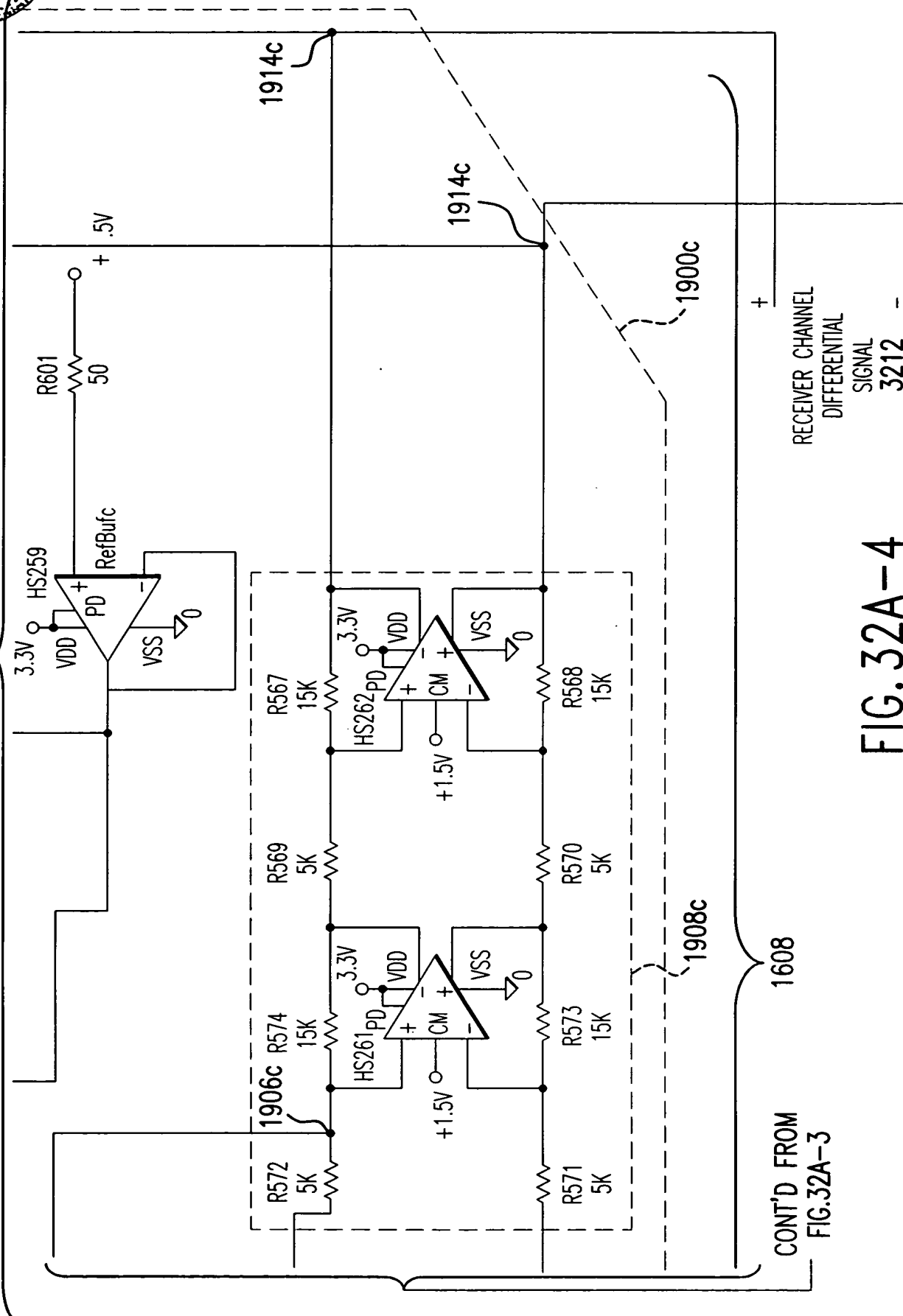
CONT'D ON
FIG. 32A-4

FIG. 32A-2





CONT'D FROM FIG.32A-2



CONT'D FROM
FIG.32A-3

RECEIVER CHANNEL
DIFFERENTIAL
SIGNAL
3212

FIG.32A-4



Appl. No. 09/986,764; Filed: November 9, 2001
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In a Communication System

FIG.32B-1	FIG.32B-2	FIG.32B-3
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FIG. 32B



CONT'D
 ON
 FIG.32B-2

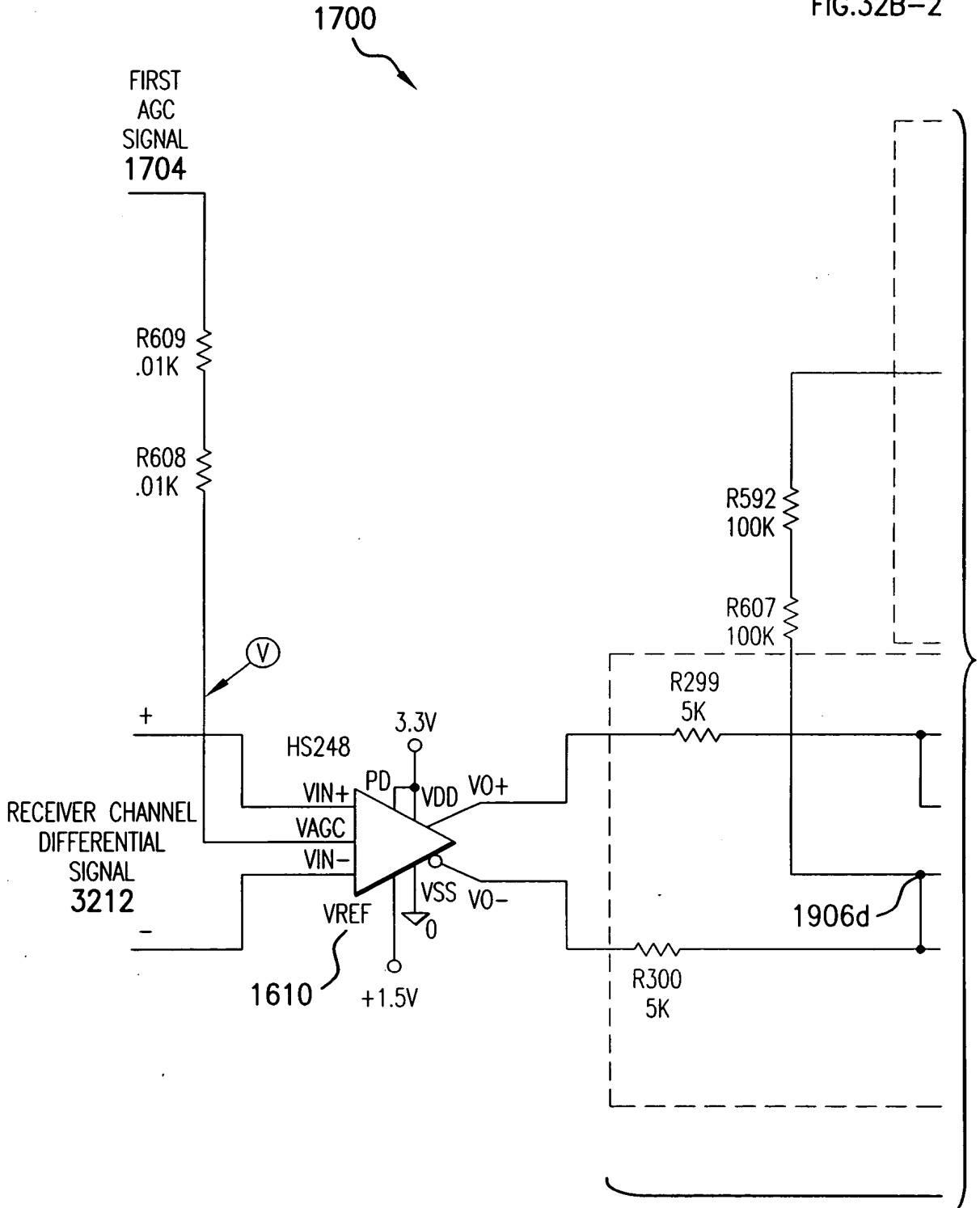


FIG. 32B-1



1900d, 1612



CONT'D
 FROM
 FIG.32B-2

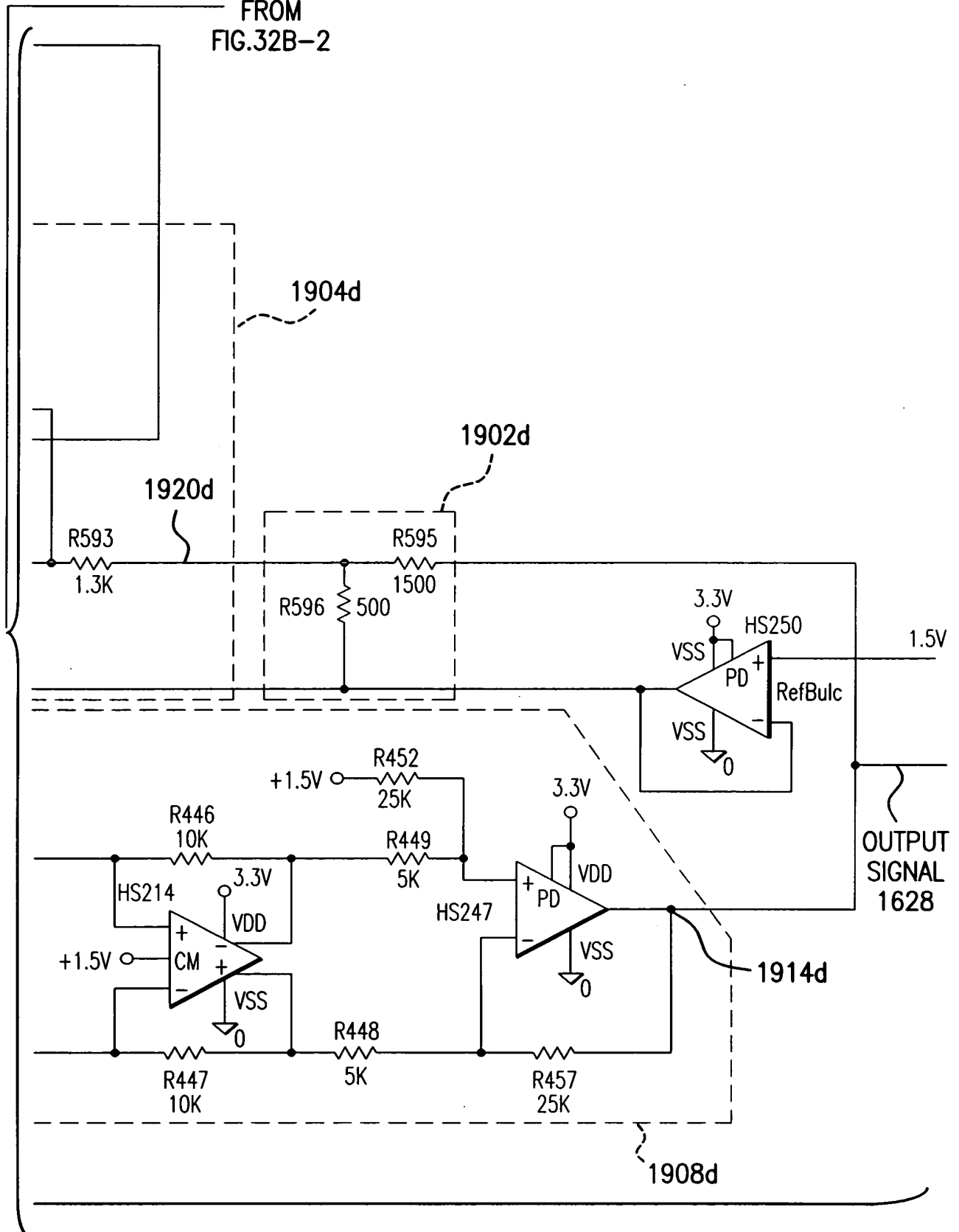


FIG. 32B-3



Appl. No. 09/986,764; Filed: November 9, 2001
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Inventors: Rawlins *et al.*; Tel: 202/371-2600
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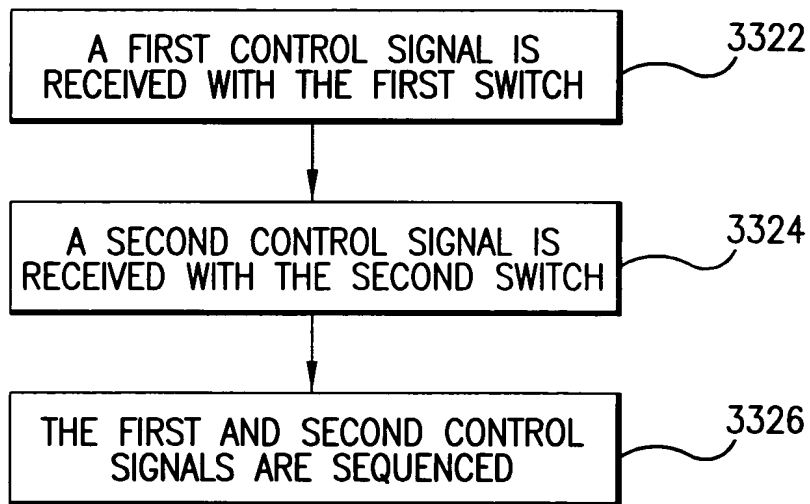


FIG. 33



2700

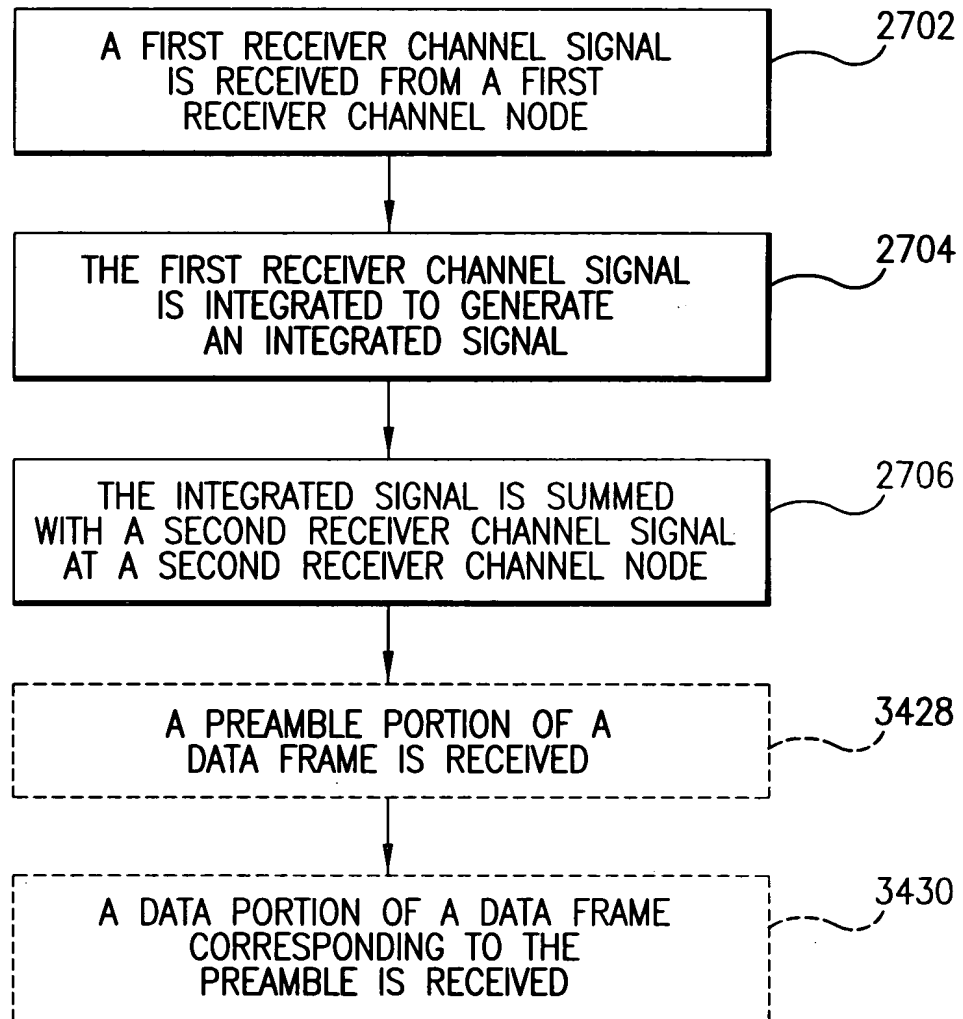


FIG. 34

Appl. No. 09/986,764; Filed: November 9, 2001
 Dkt. No. 1744,1330000; Group Art Unit: 2631
 Inventors: Rawlins *et al.*; Tel: 202/371-2600
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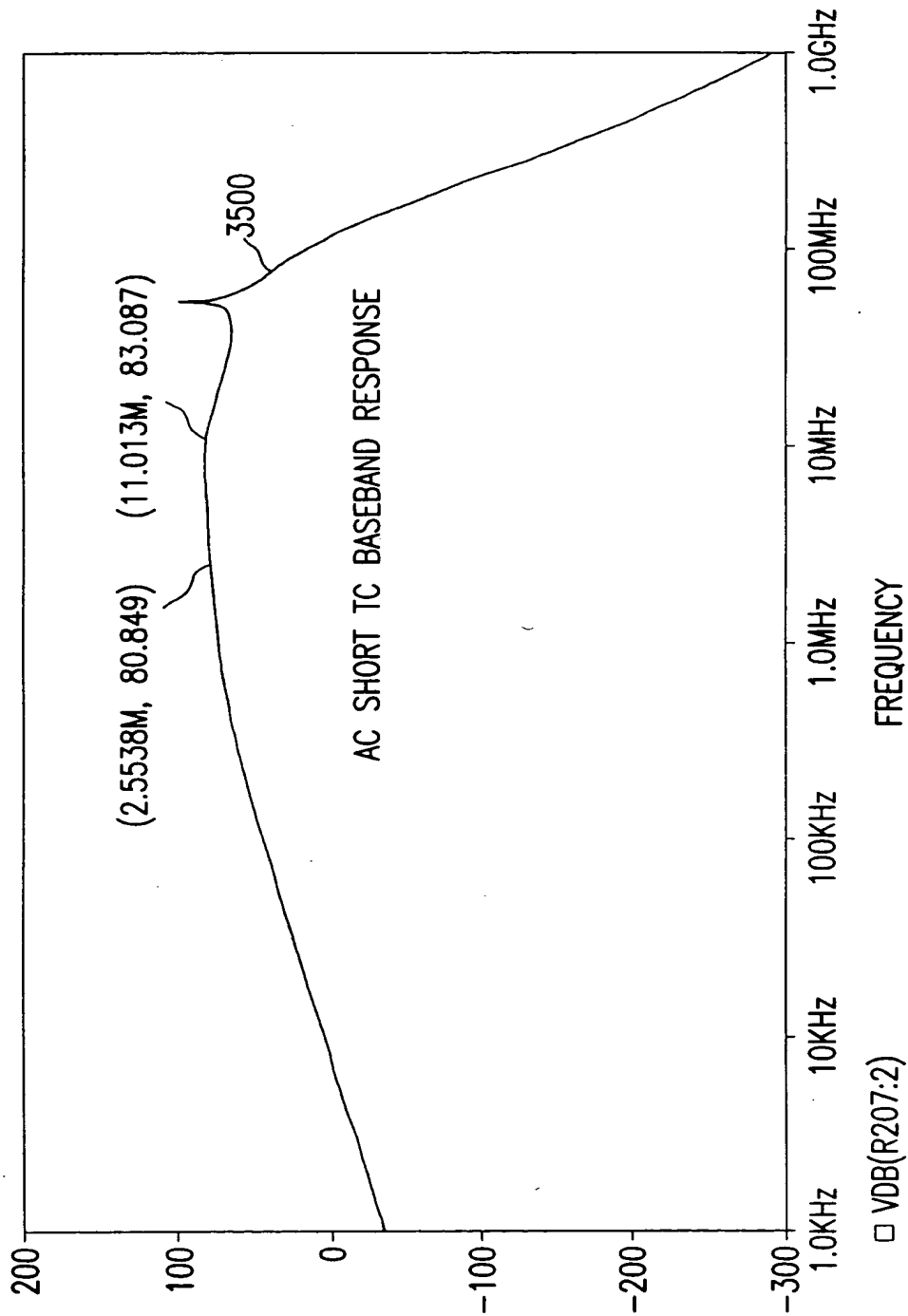


FIG.35

Appl. No. 09/986,764; Filed: November 9, 2001
 Dkt. No. 1744.1330000; Group Art Unit: 2631
 Inventors: Rawlins *et al.*; Tel: 202/371-2600
 Title: Method and Apparatus for Reducing DC Offsets
 In a Communication System

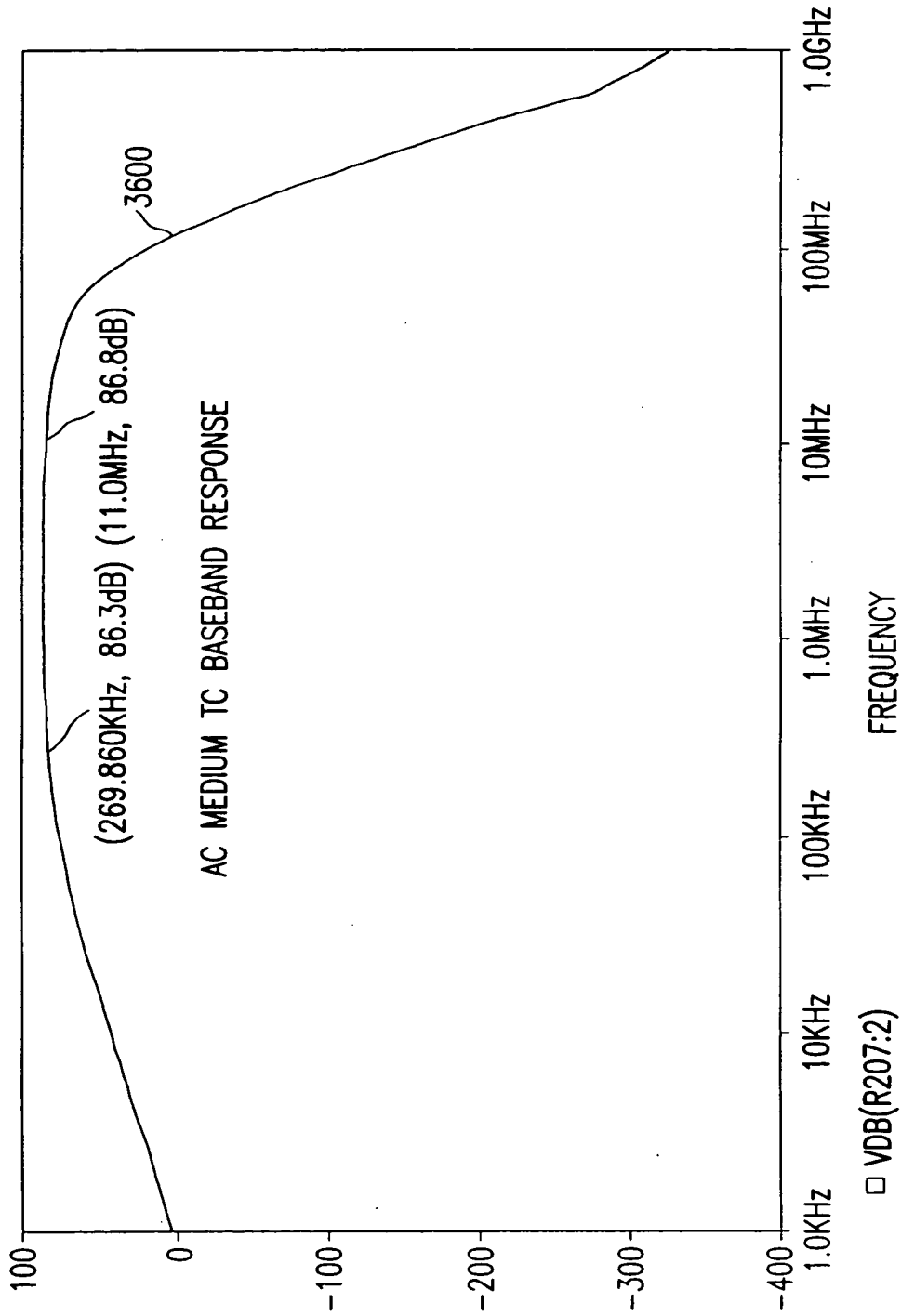


FIG.36

Appl. No. 09/986,764; Filed: November 9, 2001
 Dkt. No. 1744.1330000; Group Art Unit: 2631
 Inventors: Rawlins *et al.*; Tel: 202/371-2600
 Title: Method and Apparatus for Reducing DC Offsets
 In a Communication System

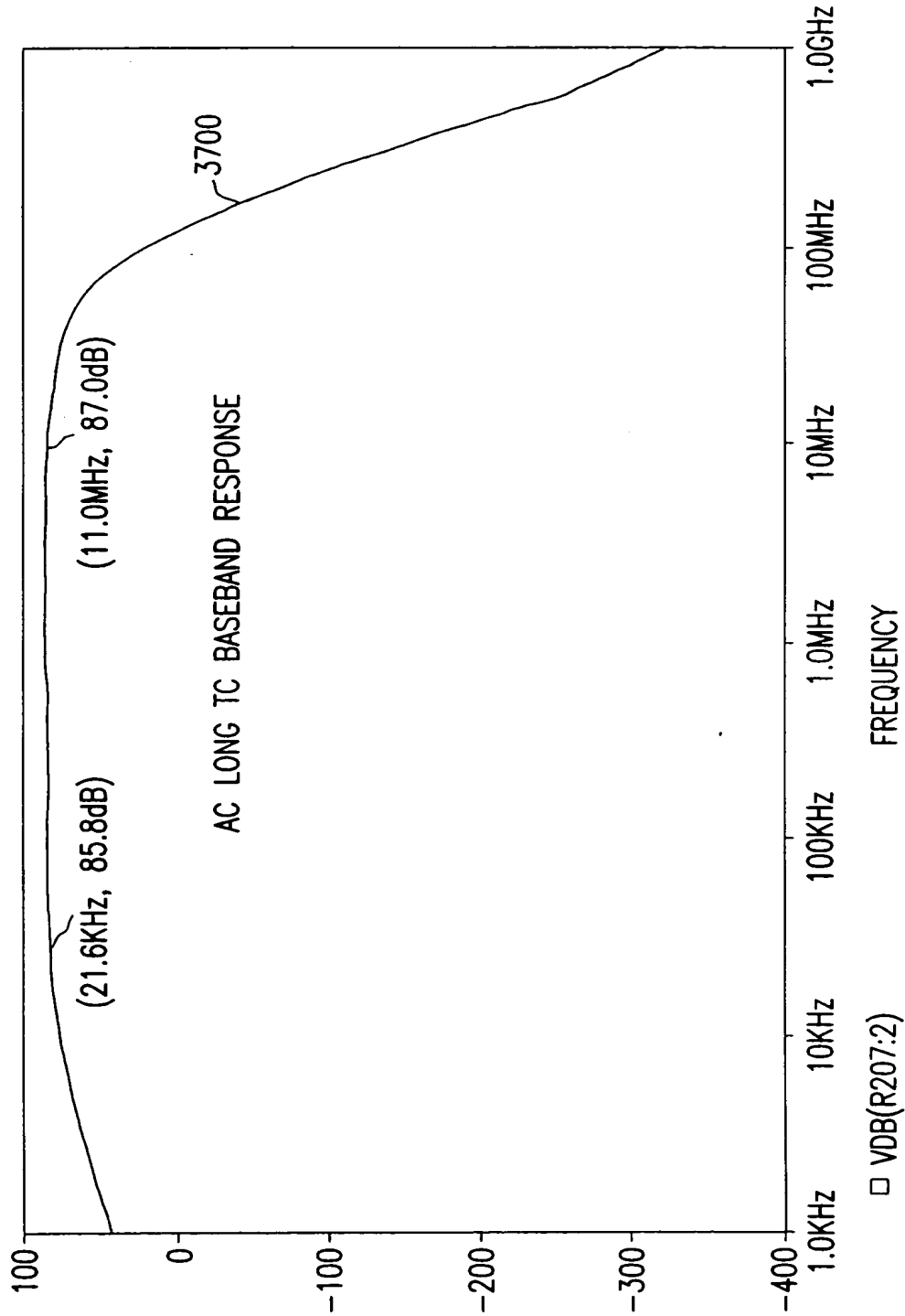


FIG.37

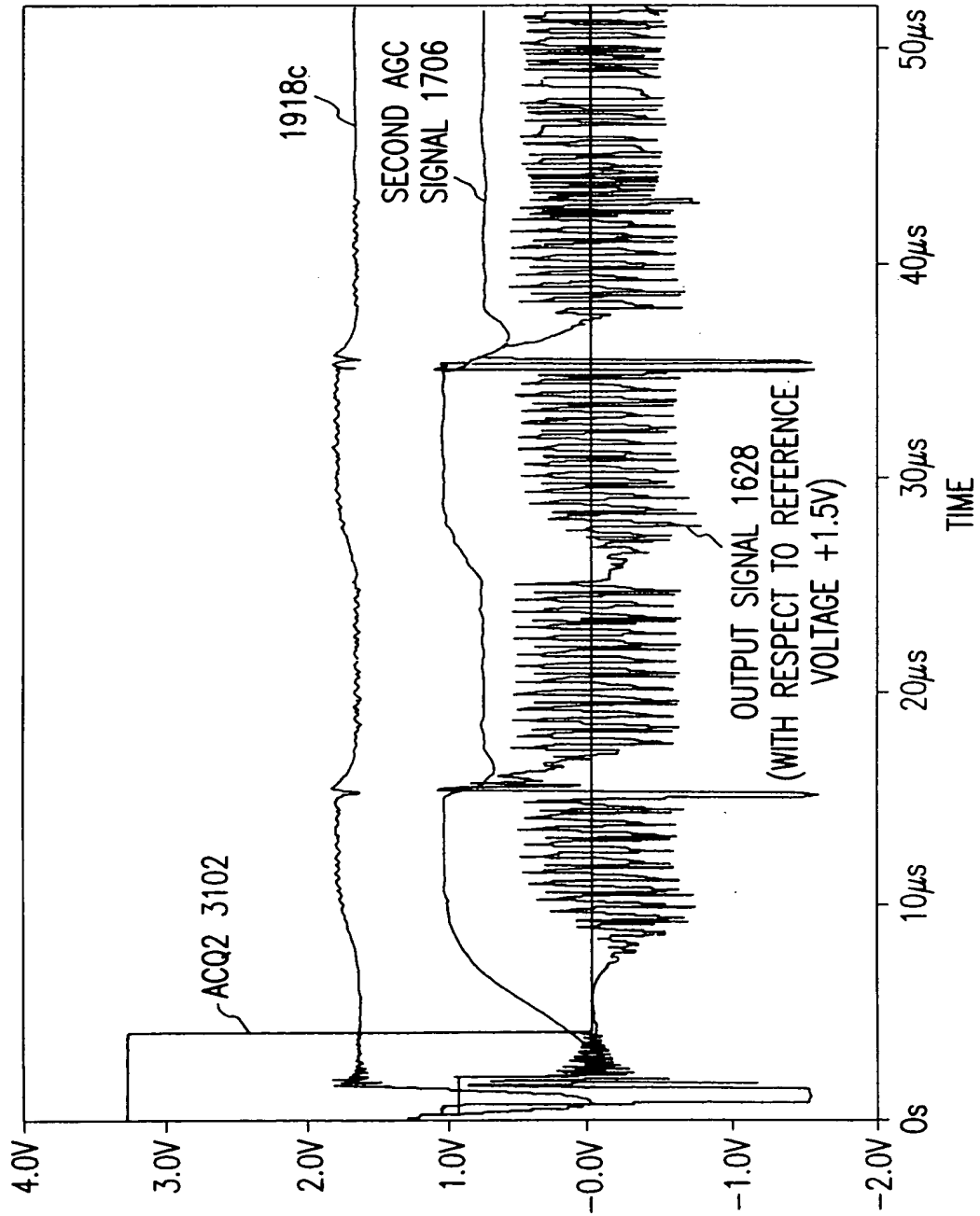
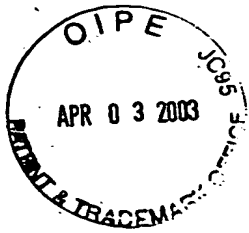


FIG.38

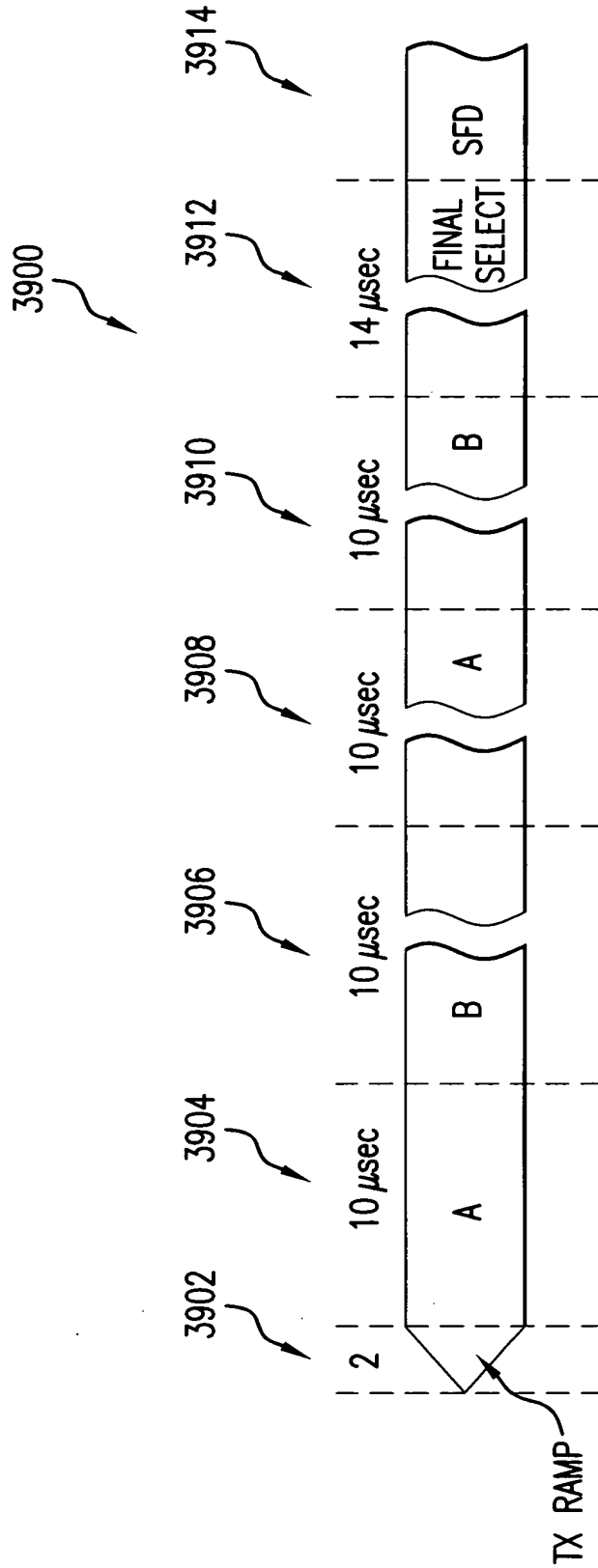
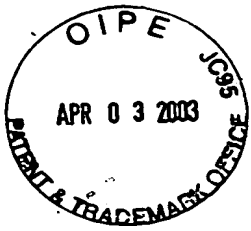


FIG. 39

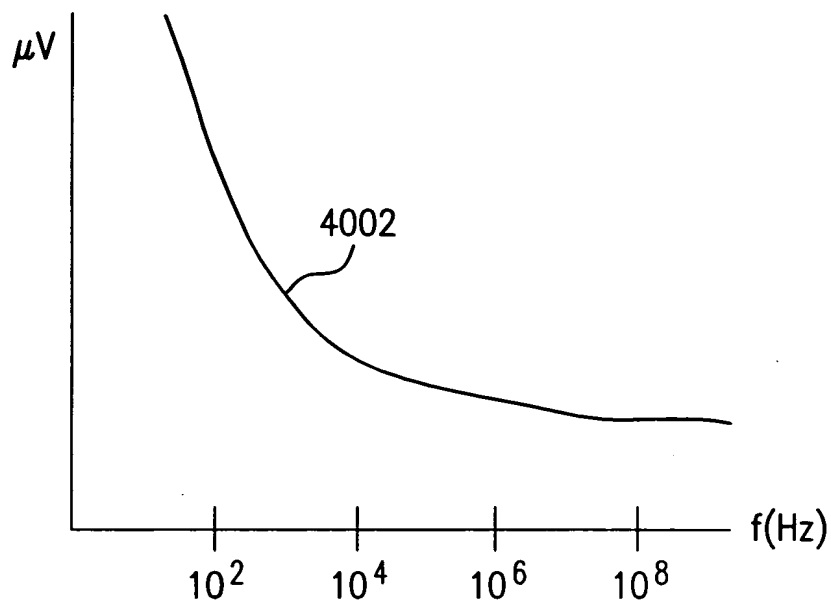


FIG. 40

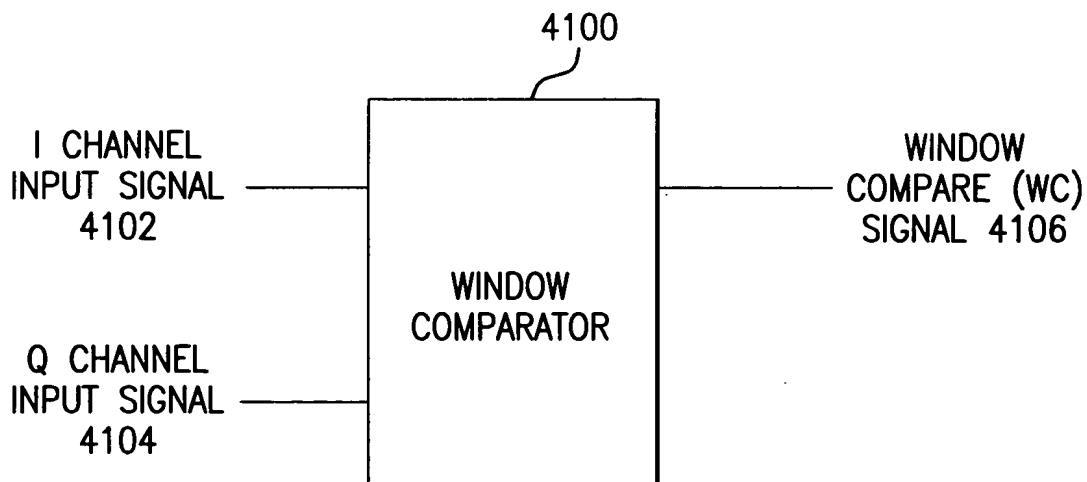


FIG. 41

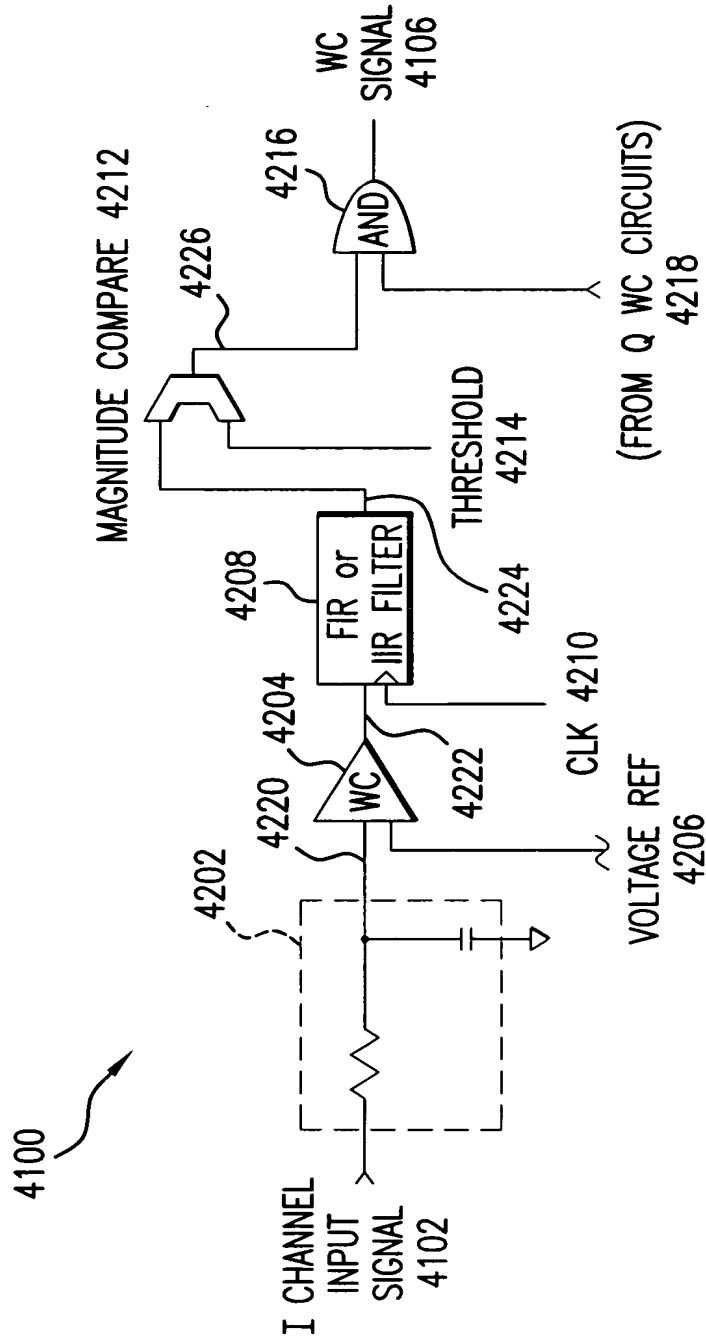
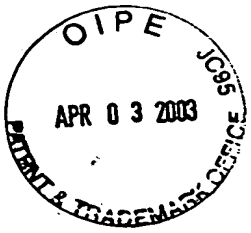


FIG. 42

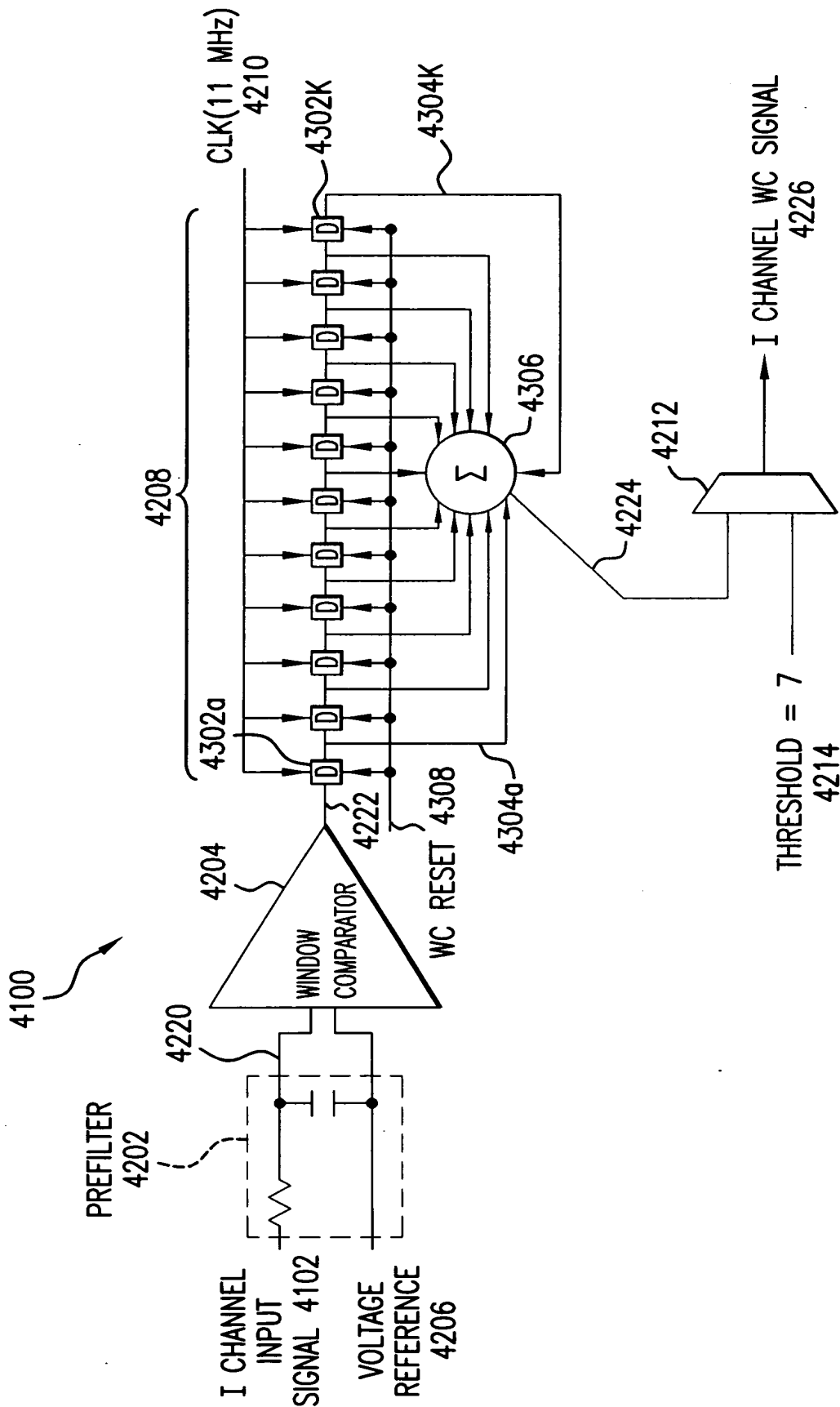


FIG. 43

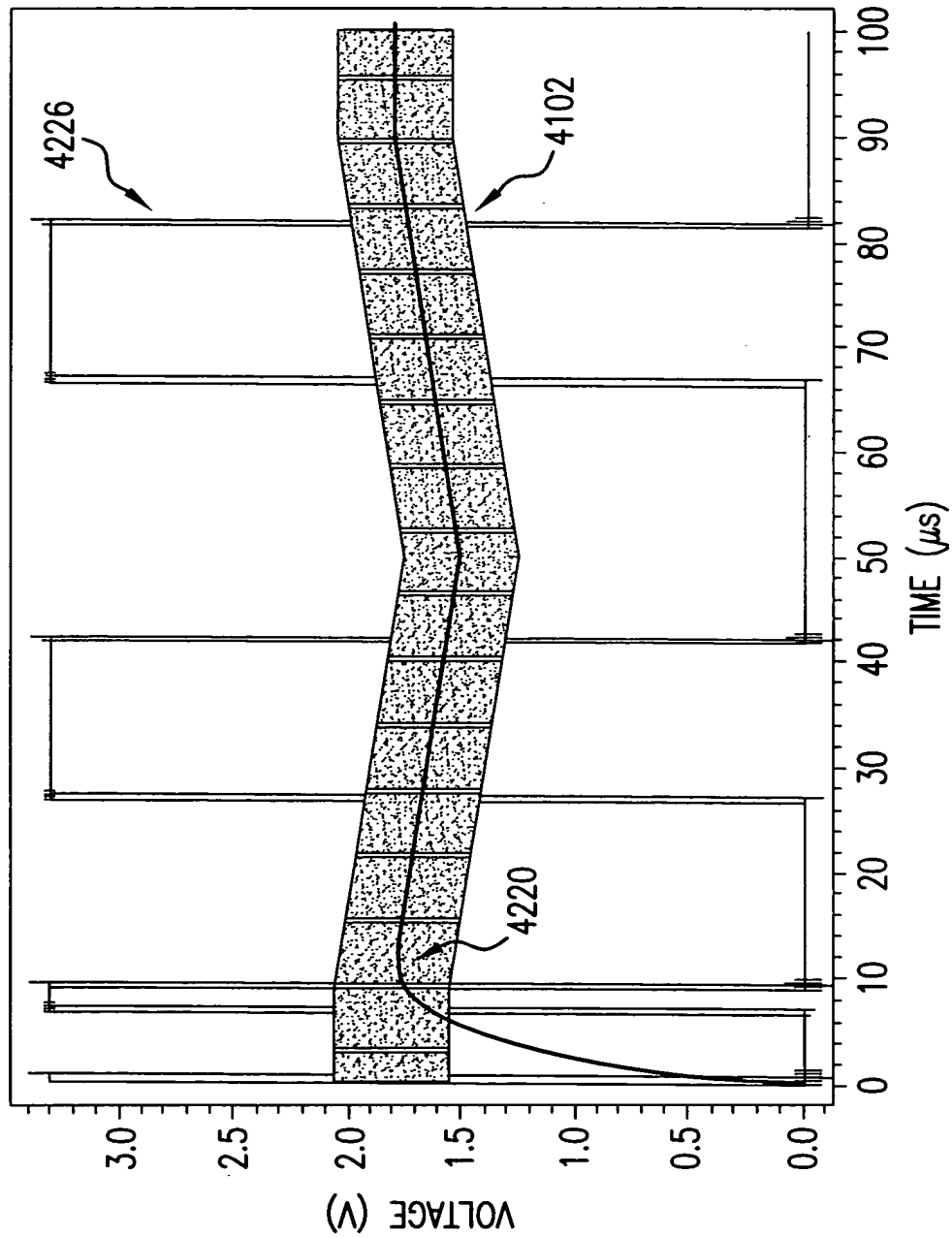


FIG. 44

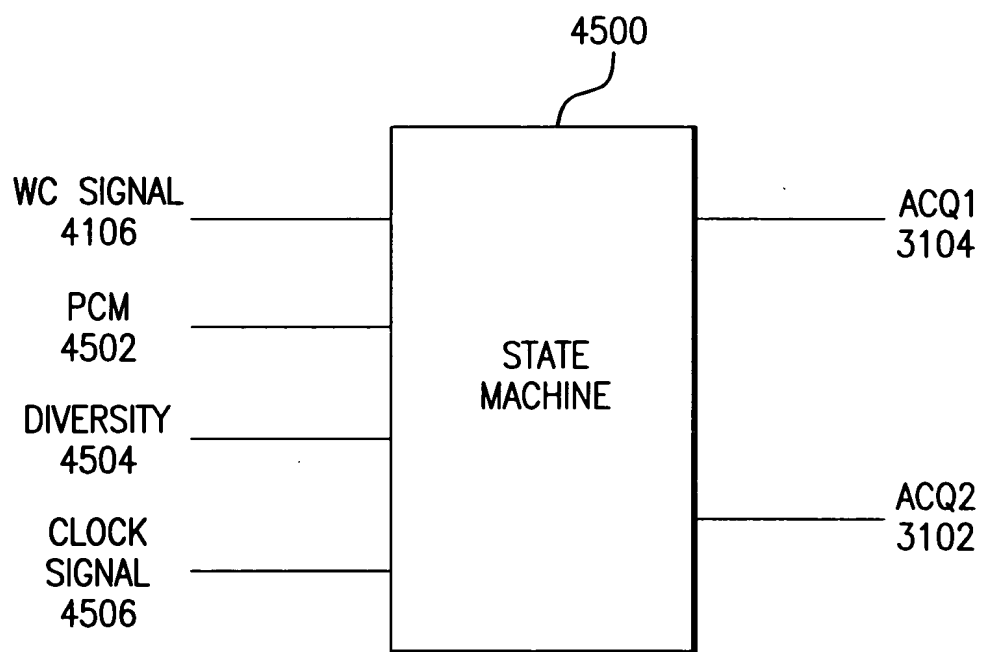


FIG. 45

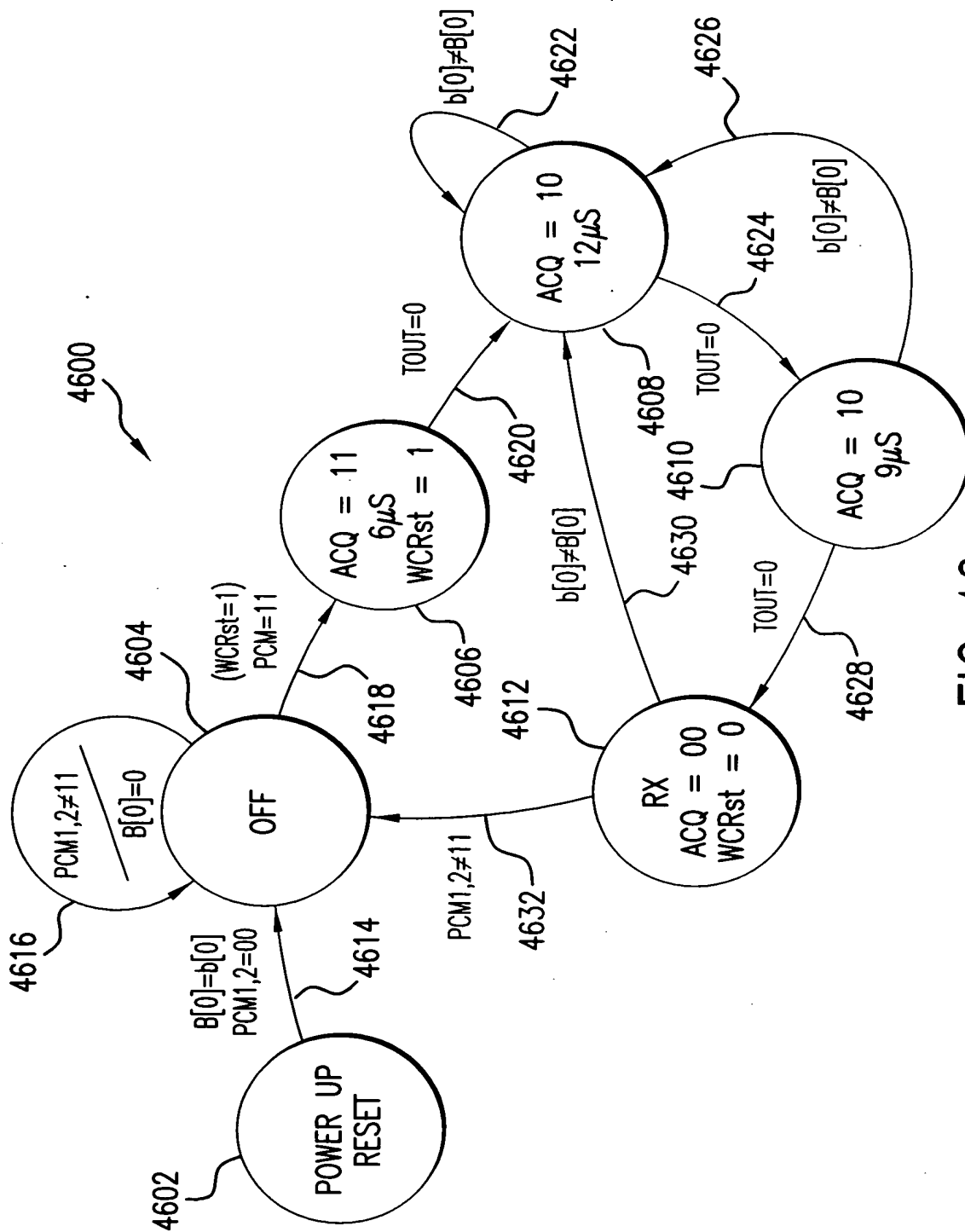


FIG. 46

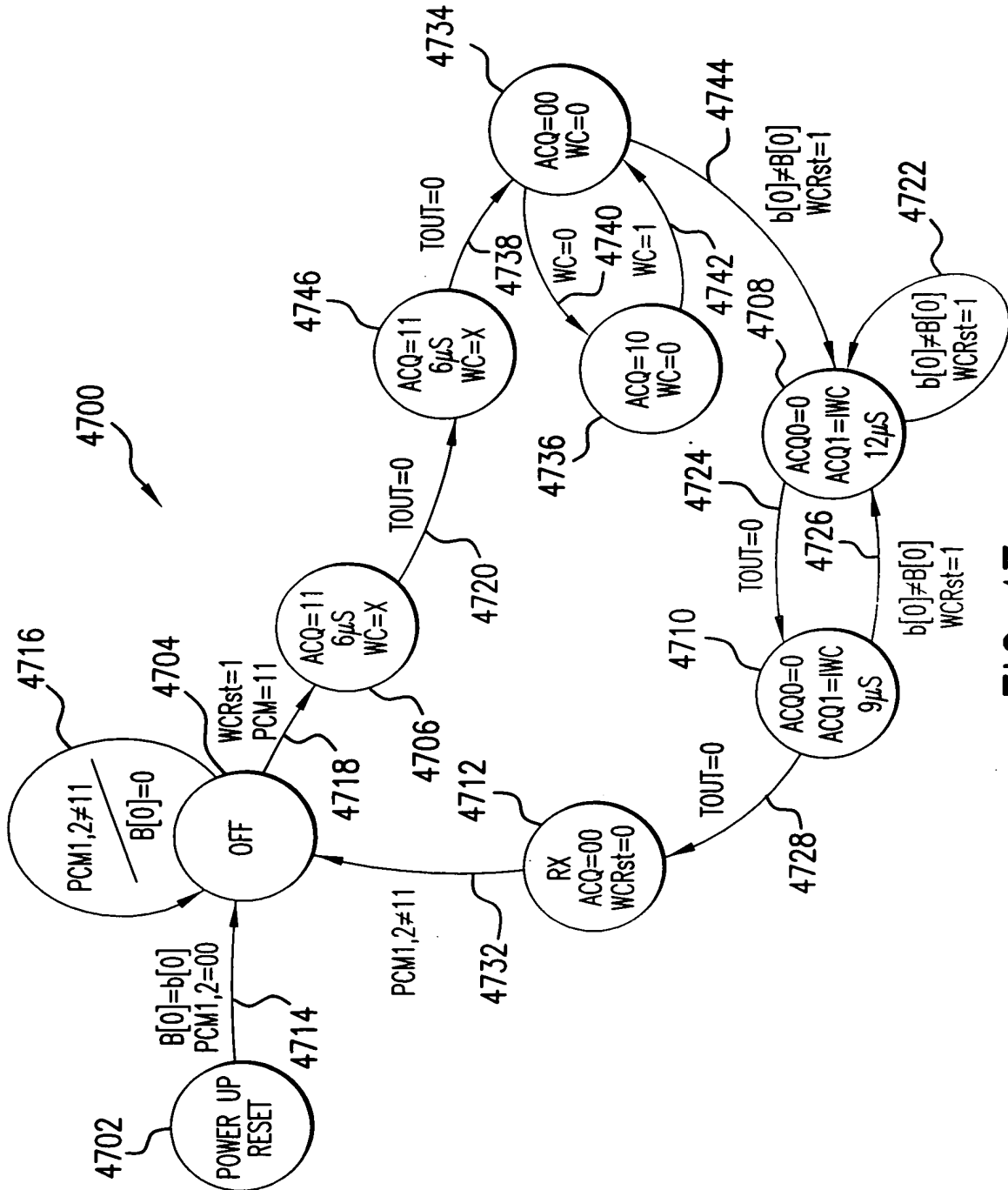


FIG. 47



4800

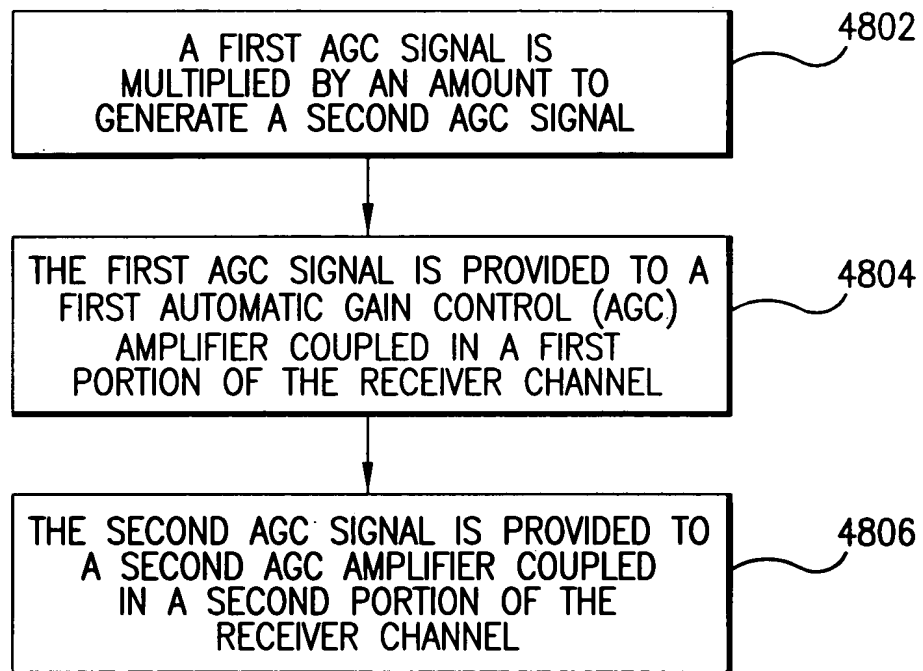


FIG. 48



4800

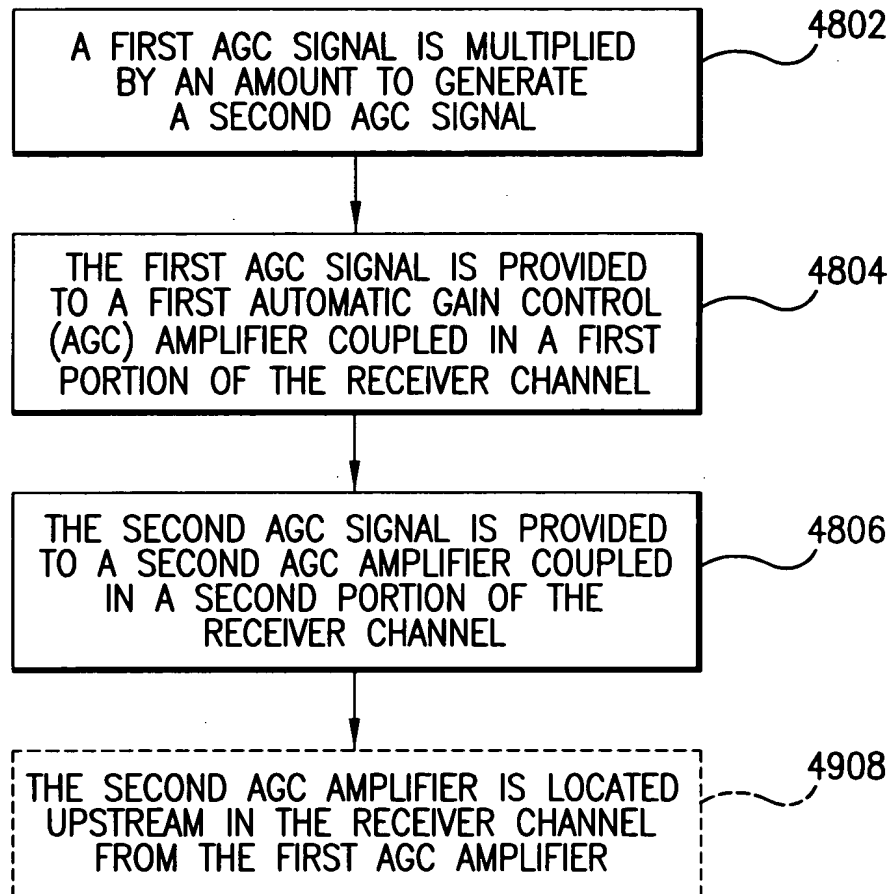


FIG. 49



4800

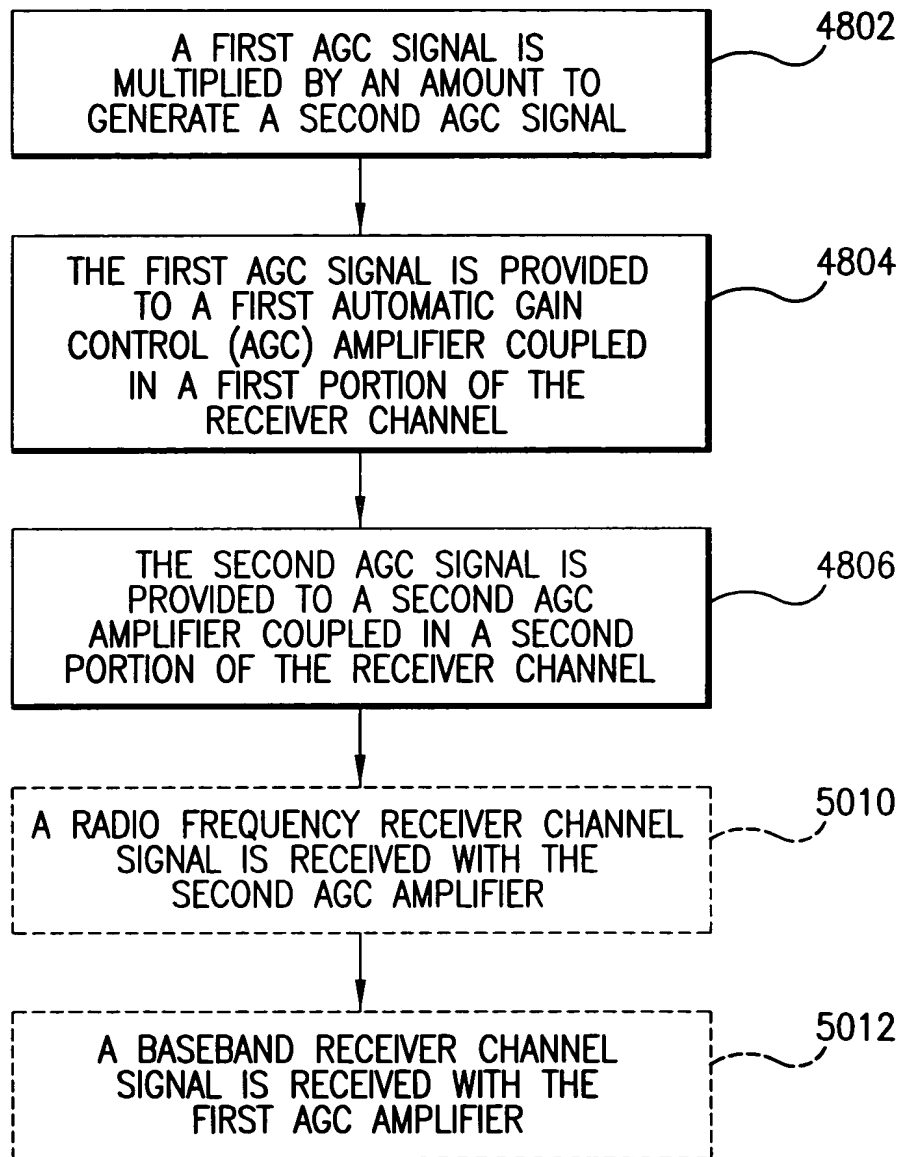


FIG. 50

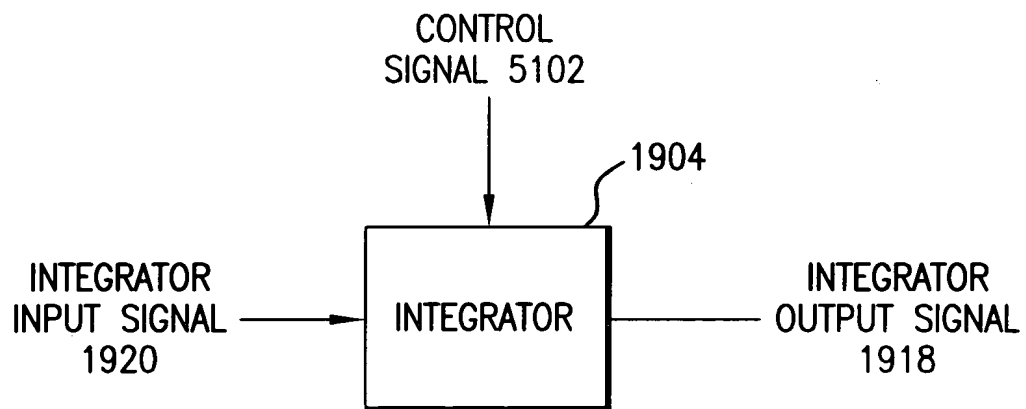


FIG. 51



4800

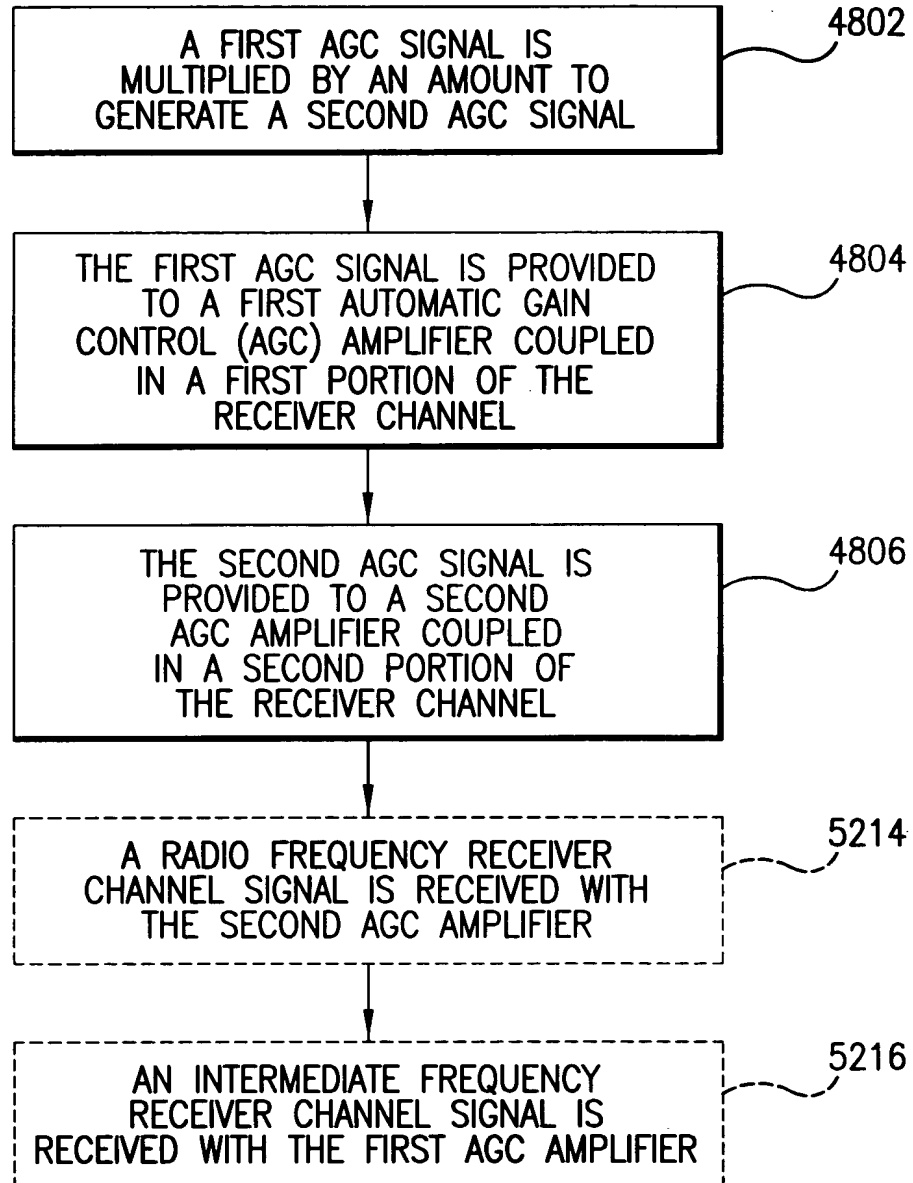


FIG. 52